

Study area

2-5 August 2022 field work in Serteya kettle-hole mire ($55^{\circ}40'33.7''\text{N}$, $31^{\circ}30'32.1''\text{E}$, 167m a.s.l.) were realized. The kettle-hole area is about of 7.8 ha and a catchment area of 48.7 ha. The mire's lengths is about 500 m (from North to South), and maximum width is about 220 m (from West to East). The mire is located in Western Russia in the Smolensk Oblast, adjacent to the watershed of the Daugava (Western Dvina) and Dnieper Rivers. According to the physical–geographical delineation, the region belongs to Vitebsk Lakeland (Kondracki, 1992) or Western Dvina Lakeland (Abramow, 1972). The study area lies in the temperate warm continental climate zone characterized by large fluctuations in weather conditions, which significantly affect the environmental conditions of the region (Kobyshevoy, 2001). The peatland is located in the upland region, adjacent to the Serteyka River valley, which is about 1 km from its mouth to the Daugava River. At present, the peatland is surrounded by steep slopes covered with spruce, pine, and birch, and its surface is covered with *Sphagnum* grown over by patches of *Ericaceae* and birch. The land relief of the area was formed during the Vistulian (Waldai) Glaciation and then transformed in the Holocene. The bottom section of the Serteyka River valley was formed by drainage of the paleolake basins during the Late Vistulian and Holocene (Kittel et al., 2018; Mazurkevich et al., 2017). In the Serteyka River valley and the nearest surrounding area (also in the directly adjacent bogs), about 60 archaeological sites, originating from different periods since the Final Paleolithic to the Middle Ages, have been discovered. Human settlements located in this area were strongly affected by paleoenvironmental conditions, especially climatic and hydrological ones (Kittel et al., 2021; Kulkova et al., 2001, 2015; Mazurkevich et al., 2009, 2012, 2017, 2020). The site considered for comparison is the large ombrotrophic peatland Gorodetsky Moch (Городёцкий мох in Russian), covering an area of 544 ha. Multiproxy paleoecological analyses have already been performed on the site by Łuców et al. (2020). This peatland is located in Pskov Oblast (Russia) ($55^{\circ}40'23.2''\text{N}$ $31^{\circ}18'02.8''\text{E}$), which is ca. 15km northwest from the Serteya kettle-hole peatland (Figure 1).



Fig. 1. Location of Serteya kettle-hole peatland (Mroczkowska et al., 2021)

Methods

The work consisted in studying the peculiarities of the distributing of Late Pleistocene and Holocene deposits in the kettle hole. To achieve the goal, the mire was divided into several transects (Fig. 2). In each of the transects, the Upper Quaternary sediment strata were uncovered

at 50-100 m intervals using a peat corer, coordinates of each borehole presented in the table 1. Each core of bottom sediments was described, photographed, and the coordinates of the borehole were recorded with a GPS. Summary 75 cores from the 24 boreholes were described.

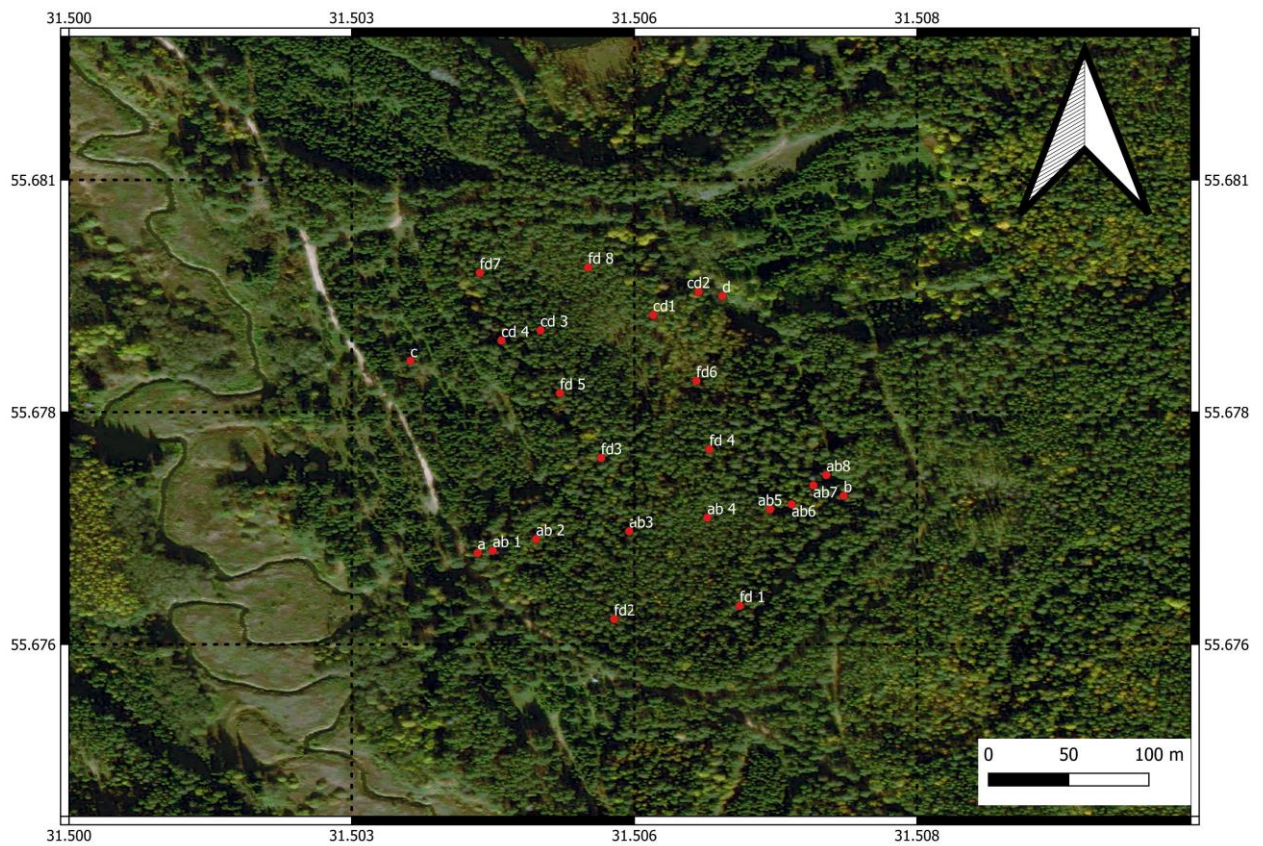


Fig. 2. Study area, transects and boreholes location.

Table 1. Coordinates of the boreholes.

Name	Latitude	Longitude
a	55.677005367	31.504046917
c	55.678908945	31.503381729
d	55.679551533	31.506471634
ab 1	55.677027858	31.504197121
ab 2	55.677142799	31.504626274
ab3	55.677221443	31.505548954
ab 4	55.677354531	31.50632143
ab5	55.677439224	31.506943703
fd 4	55.678032068	31.506342888
fd 8	55.67983474	31.505141258
ab7	55.677675153	31.507372856
b	55.677572312	31.507673264
ab6	55.67748762	31.507158279
fd6	55.678709592	31.506214142
cd1	55.679362908	31.505784988
ab8	55.677777993	31.507501602
cd2	55.679592775	31.5062356
fd7	55.679780298	31.504068375

cd 4	55.679108842	31.504282951
cd 3	55.679211678	31.504669189
fd 5	55.678588606	31.504862309
fd3	55.677947376	31.505270004
fd2	55.676350305	31.50539875
fd 1	55.676483396	31.506643295

Results

ab1 – 0-5 cm – humused sands.

ab 2 (0-100)

ab2 0 12 brown moss
ab2 12 61 brown badly decomposed peat
ab2 61 100 brown decomposed peat



Fig. 3. ab2 core

ab 2 (100-200)

ab2 100 105 brown decomposed peat
ab2 105 140 brown medium decomposed peat
ab2 140 186 brown decomposed peat
ab2 186 200 brown medium decomposed peat



Fig. 4. Ab 2 core (100-200)

Ab 2 (200-300)

ab2 200 202 light-brown medium decomposed peat
ab2 202 227 brown badly decomposed peat
ab2 227 297 olive detritus gyttja

ab2	297	300	olive	detritus	gyttja
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Fig. 5. Ab 2 (200-300)

Ab2 (300-400)					
ab2	300	303	brown	detritus	gyttja
ab2	303	322	grey-olive	detritus	gyttja
ab2	322	330	grey-olive	detritus	gyttja
ab2	330	400	grey-olive	detritus	gyttja



Fig. 6. Ab 2 (300-400)

Ab2 (400-500)					
ab2	400	406	brown-olive	detritus	gyttja
ab2	406	442	brown	detritus	gyttja
ab2	442	451	brown	detritus	gyttja
ab2	451	466	grey	detritus	gyttja
ab2	466	500	brown	clay	gyttja



Fig. 7. Ab 2 (400-500)

Ab2 (447-547)

ab2	447	456	brown detritus	gyttja
ab2	456	469	grey detritus	gyttja
ab2	469	508	brown	clay gyttja
ab2	508	519	black	gyttja
ab2	519	527	decomposed	peat
ab2	527	547	fine-mid grained	sand



Fig. 5. Ab 2 (447-547)

Mastercore of AB 2 borehole presented in the Fid 6.

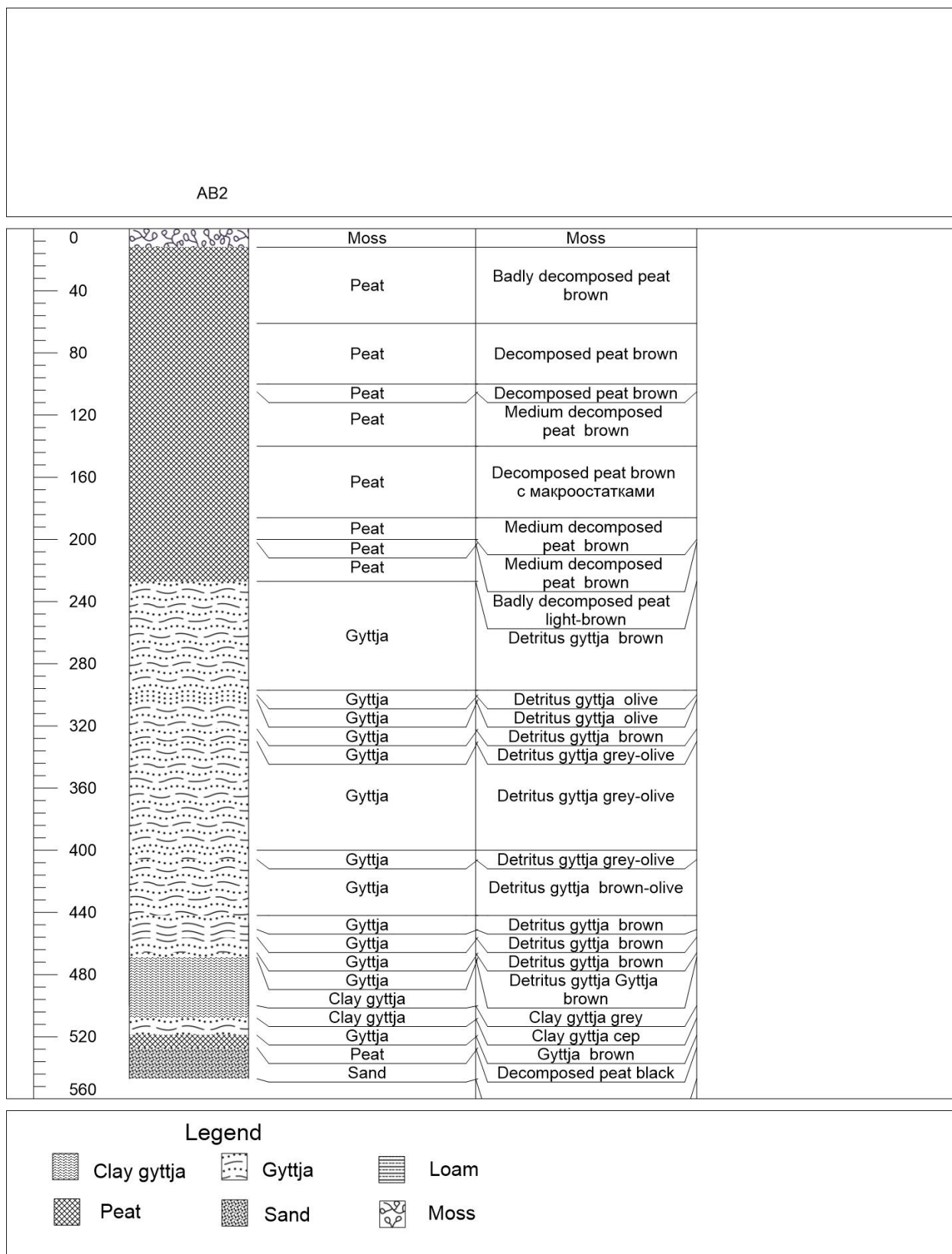


Fig. 6. Mastercore of AB 2 borehole

Ab3 0-100

ab3	0	6	dark-brown	sfagnum
ab3	6	11	brown decomposed	peat
ab3	11	34	dark-brown	badly decomposed peat

ab3	34	39	brown decomposed	peat
ab3	39	70	brown medium decomposed	peat
ab3	70	100	brown badly decomposed	peat



Fig. 7. Ab 3 (0-100)

Ab3 (100-200)

ab3	100	119	brown badly decomposed	peat
ab3	119	196	brown medium decomposed	peat
ab3	196	200	brown badly decomposed	peat



Fig. 8. Ab 3 (100-200)

Ab3 (200-300)

ab3	200	210	light-brown	badly decomposed	peat
ab3	210	227	olive	detritus	gyttja
ab3	227	240	dark-olive	detritus	gyttja
ab3	240	269	olive	gyttja	
ab3	269	300	olive	gyttja	



Fig. 9. Ab 3 (200-300)

Ab3 (300-400)

ab3	300	307	brown-olive	gyttja
ab3	307	400	brown-olive	gyttja

Ab3 (394-494)

ab3	394	407	beige	gyttja	
ab3	407	410	light beige	fine-mid grained	sand
ab3	410	470	beige	badly decomposed peat	peat
ab3	470	494		fine-mid grained	sand

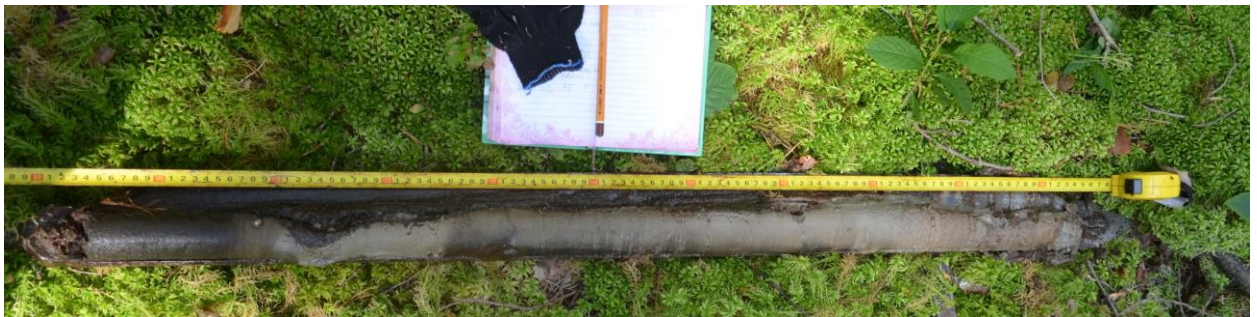


Fig. 10. Ab 3 (394-494)

Mastercore of AB 3 borehole presented in the Fid 11.

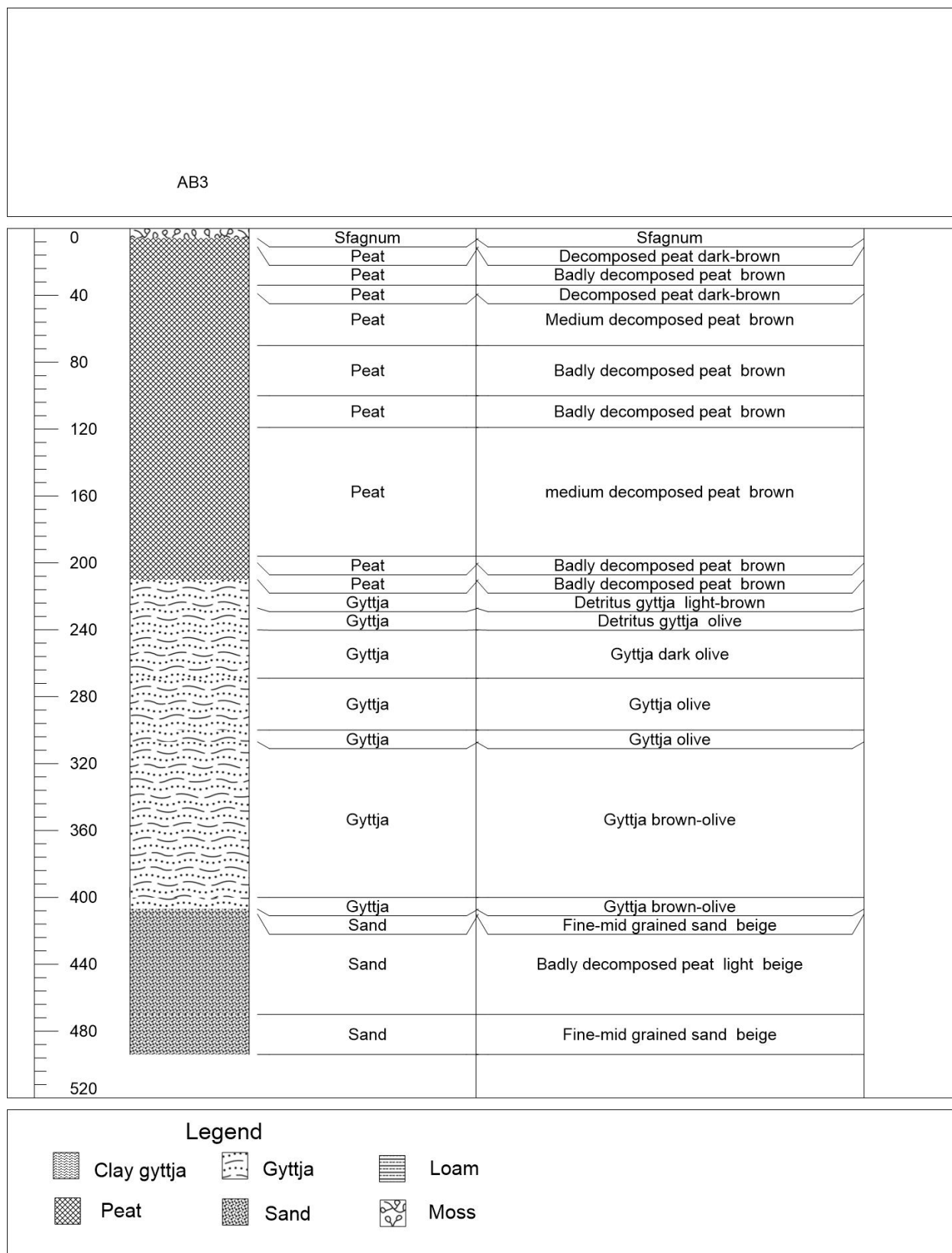


Fig. 11. Mastercore of AB 3 borehole

Ab4 (0-100)

ab4	0	10	brown	moss
ab4	10	25	brown	medium decomposed peat
ab4	25	100	brown	badly decomposed peat



Fig. 12. Ab 4 (0-100)

Ab4 (100-200)

ab4 100 200 brown badly decomposed peat



Fig. 13. Ab 4 (100-200)

Ab 4 (200-300)

ab4 200 300 brown badly decomposed peat



Fig. 14. Ab 4 (200-300)

Ab 4 (300-400)

ab4 300 400 brown badly decomposed peat



Fig. 15. Ab 4 (300-400)

Ab 4 (400-500)

ab4	400	488	light-brown	badly decomposed	peat
ab4	488	500	light-brown	gyttja	



Fig. 16. Ab 4 (400-500)

Ab 4 (500-600)

ab4	500	540	light-olive	gyttja	
ab4	540	556	dark olive	detritus gyttja	gyttja
ab4	556	600	olive	gyttja	

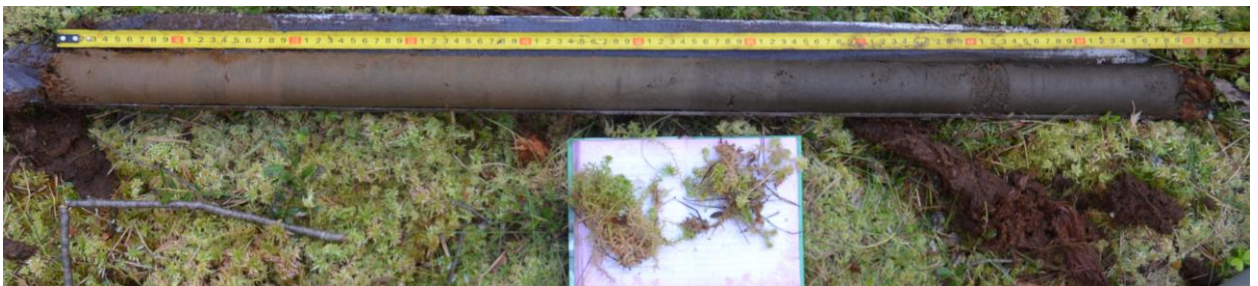


Fig. 17. Ab 4 (500-600)

Ab 4 (600-700)

ab4	600	637	dark-olive	gyttja	
ab4	637	700	dark-olive	gyttja	



Fig. 18. Ab 4 (600-700)

Ab 4 (700-800)

ab4 700 800 dark-olive gyttja



Fig. 19. Ab 4 (700-800)

Ab 4 (755-855)

ab4	755	822	dark grey	gyttja	
ab4	822	842	dark grey	clay gyttja	
ab4	842	844	grey-beige	detritus gyttja	gyttja
ab4	844	848,5	black	fine-mid grained	sand
ab4	848,5	854	dark grey	decomposed	peat
ab4	854	855		fine grained sand	sand



Fig. 20. Ab 4 (755-855)

Mastercore of AB 4 borehole presented in the fig. 21.

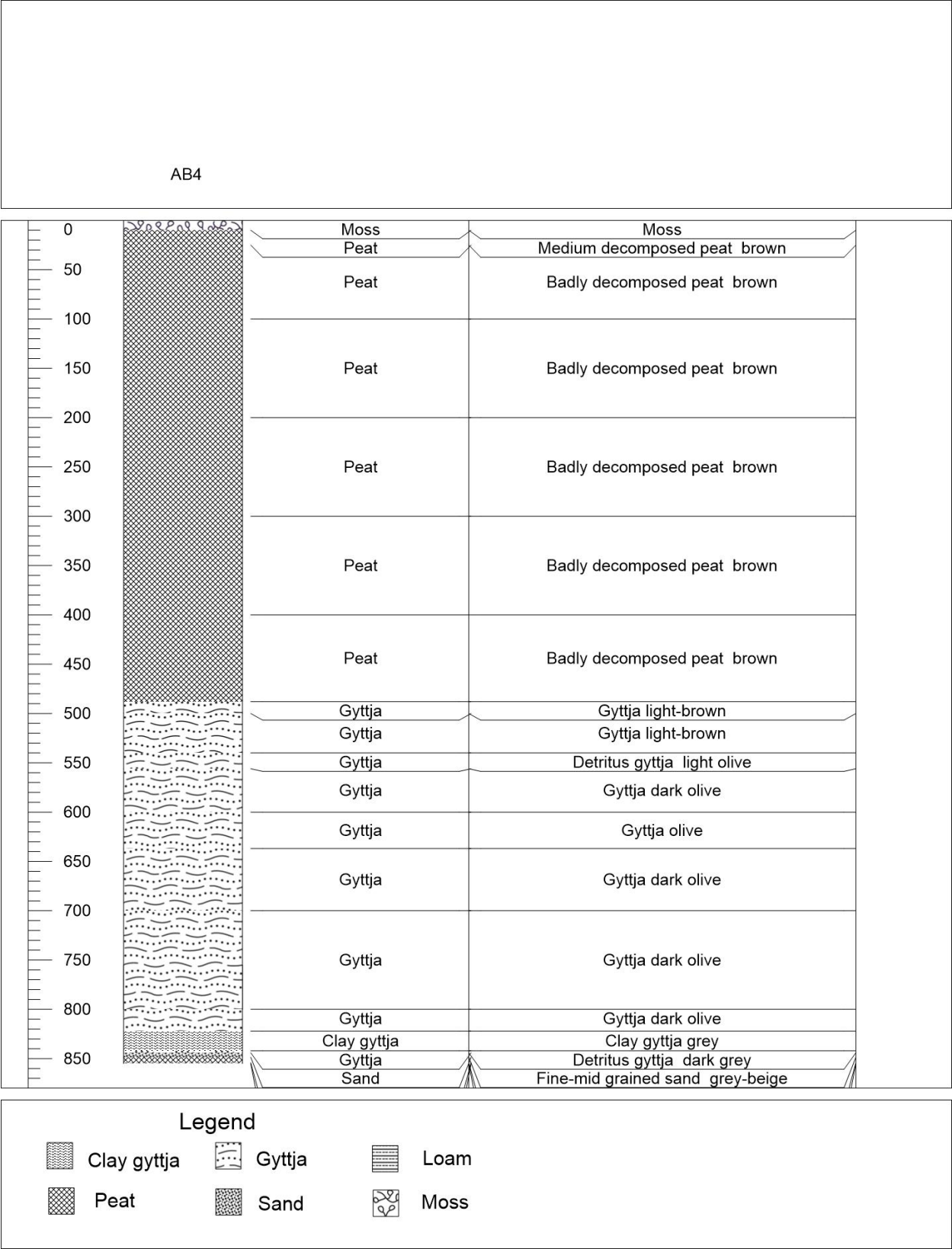


Fig. 21. Mastercore of AB 4 borehole

Ab 5 (0-100)

ab5 0 5 dark-brown moss

ab5	5	13	brown	decomposed	peat
ab5	13	55	light-brown	medium decomposed	peat
ab5	55	100	light-brown	badly decomposed	peat

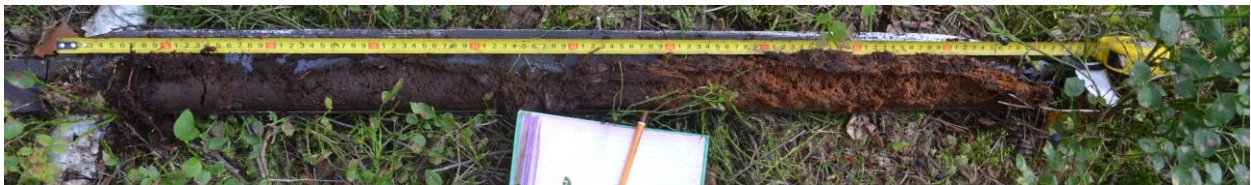


Fig. 22. Ab 5 (0-100)

Ab 5 100-200

ab5	100	200	light-brown	badly decomposed	peat
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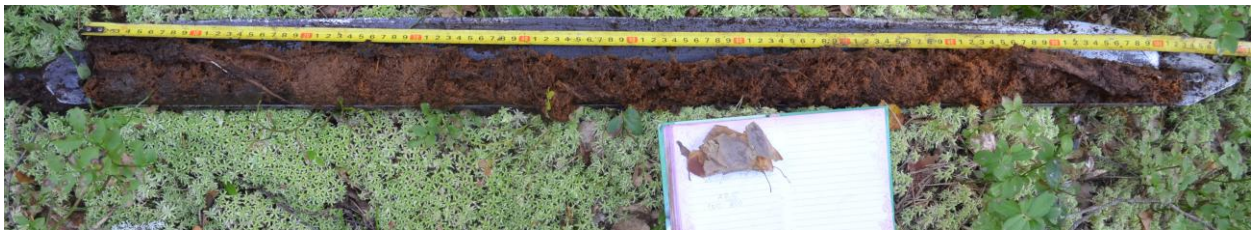


Fig. 23. Ab 5 (100-200)

Ab 5 (200-300)

ab5	200	249	brown	badly decomposed	peat
ab5	249	300	brown	badly decomposed	peat



Fig. 24. Ab 5 (200-300)

Ab 5 (300-400)

ab5 300 400 brown badly decomposed peat

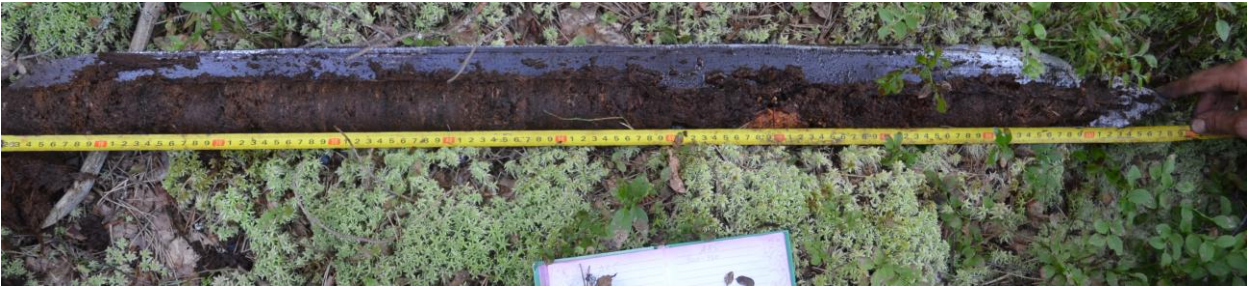


Fig. 25. Ab 5 (300-400)

Ab 5 (400-500)

ab5 400 434 light-brown badly decomposed peat
ab5 434 458 olive detritus gyttja
ab5 458 496 light olive gyttja
ab5 496 500 light olive gyttja



Fig. 26. Ab 5 (400-500)

Ab 5 (500-600)

ab5 500 527 light olive gyttja
ab5 527 600 light olive gyttja

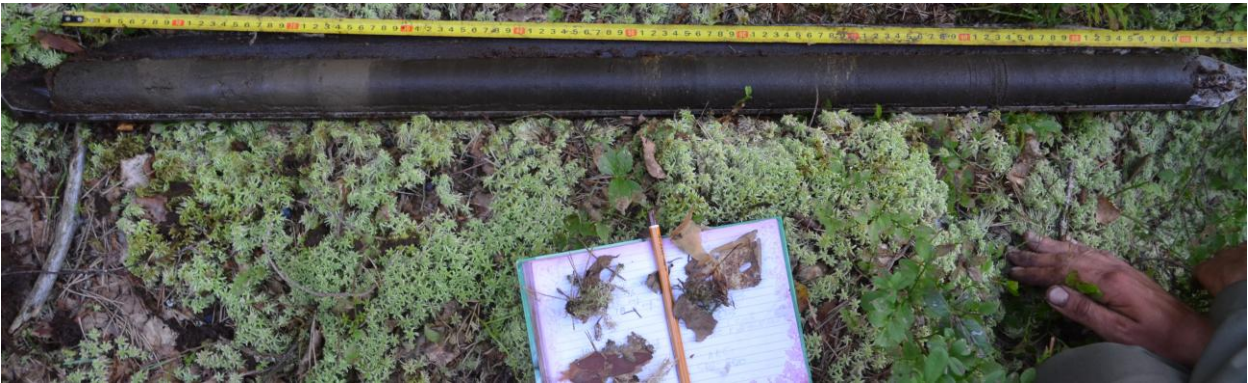


Fig. 27. Ab 5 (500-600)

Ab 5 (600-700)				
ab5	600	627	brown	gyttja
ab5	627	684	grey olive	gyttja
ab5	684	700	brown	clay gyttja

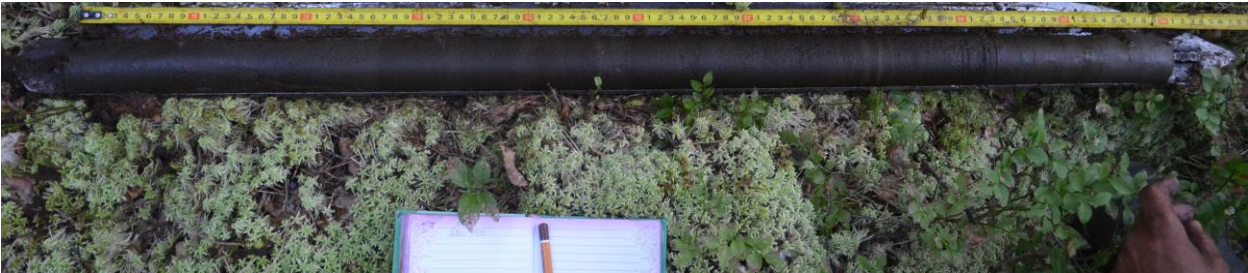


Fig. 28. Ab 5 (600-700)

Ab 5 (665-765)				
ab5	665	685	grey olive	gyttja
ab5	685	730	dark-brown	clay gyttja
ab5	730	754	dark-brown	gyttja
ab5	754	761	grey beige	medium decomposed peat
ab5	761	765	fine-mid grained sand	

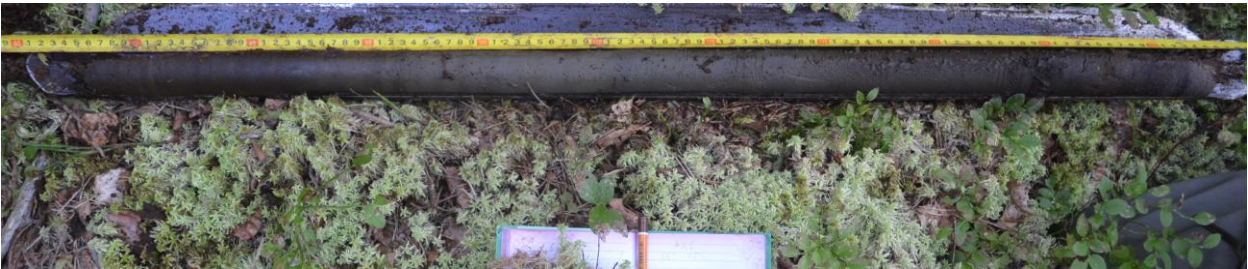


Fig. 29. Ab 5 (665-765)

Mastercore of AB 5 borehole presented in the fig. 30.

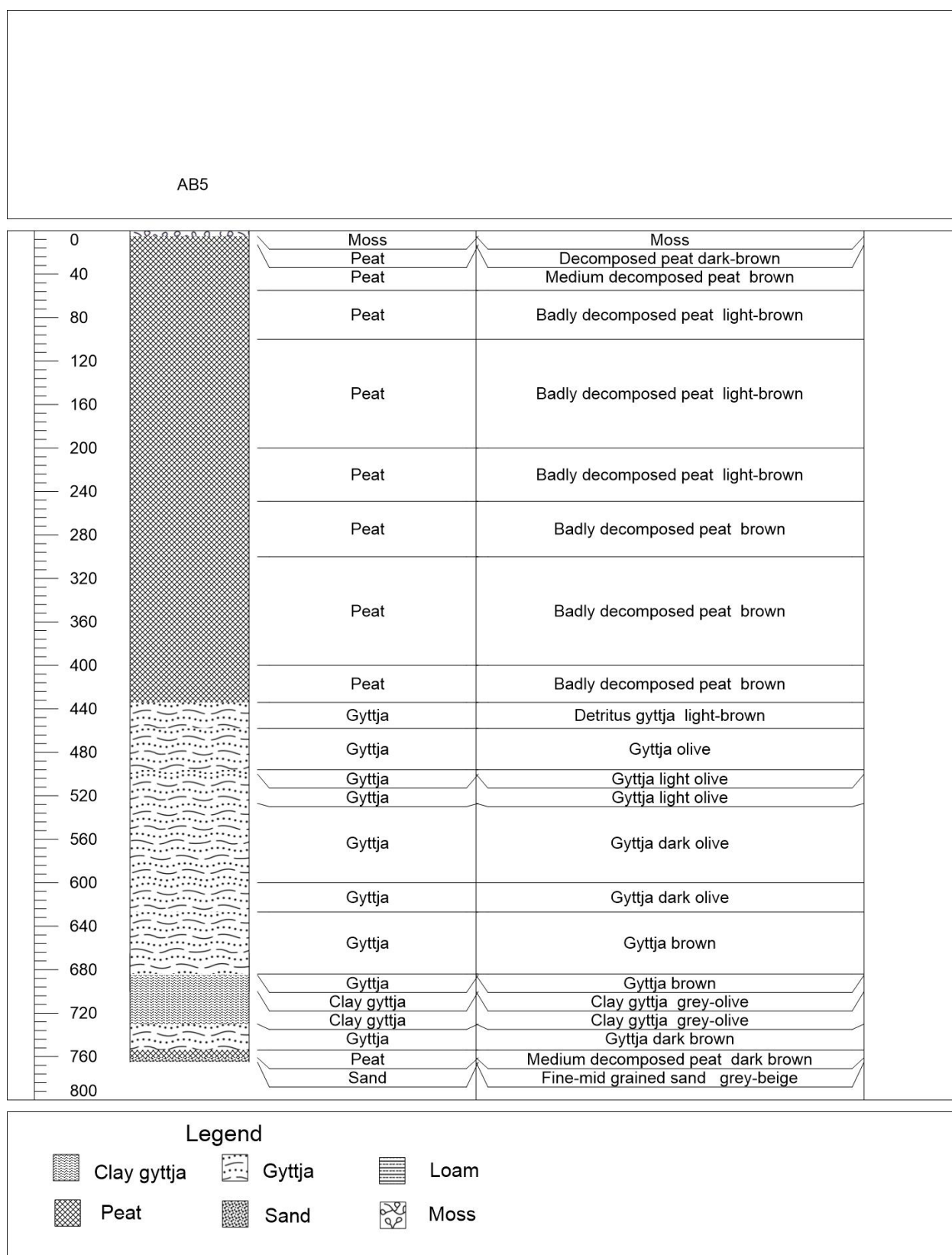


Fig. 30. Mastercore of AB 5

Ab 6 (500-600)

ab 6 500 568 olive detritus gyttja gyttja

ab 6 568 592 light beige clay gyttja

ab 6 592 600 fine grained sand sand



Fig. 31. ab 6 (500-800)

Mastercore of AB 6 borehole presented in the fig. 32.

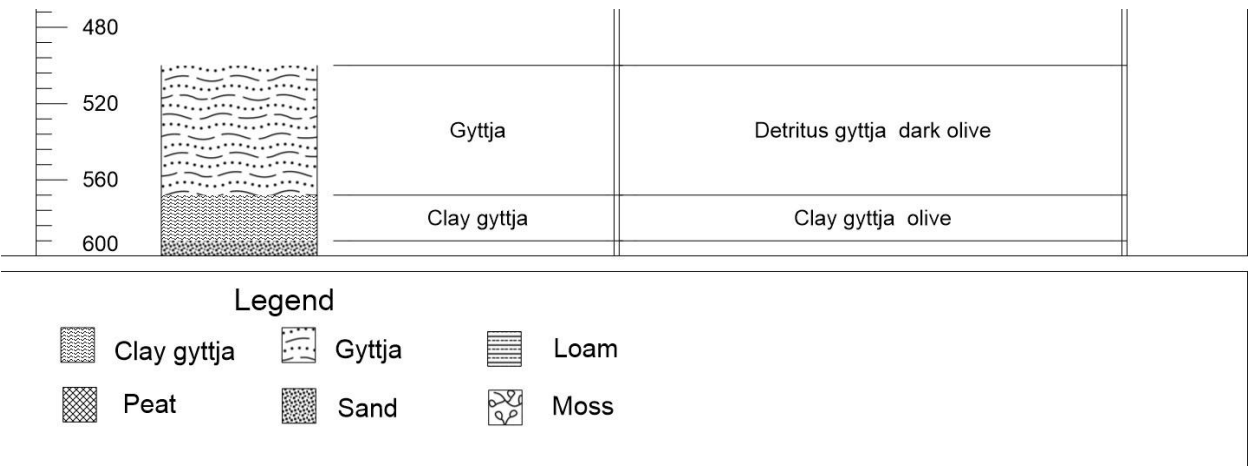


Fig. 32. Mastercore of AB 6 borehole.

Ab 7 (0-95)

ab 7	5	10	dark brown	litter	
ab 7	10	27	dark brown	decomposed peat	peat
ab 7	27	95	dark brown	medium decomposed peat	

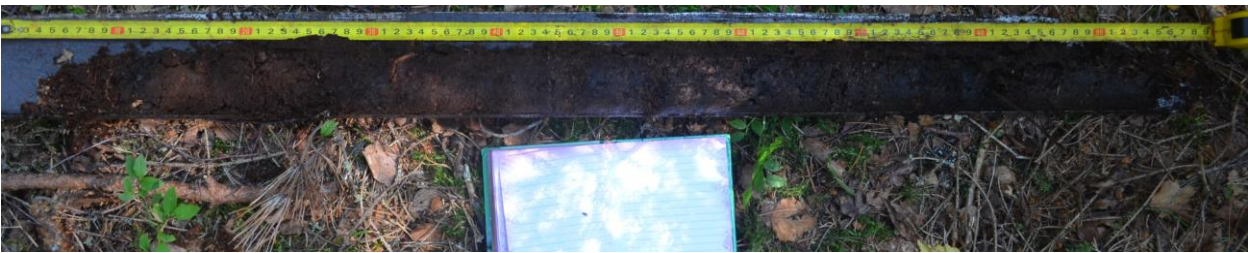


Fig. 33. Ab 7 (0-95)

Ab 7 (55-155)

ab 7	55	105	brown	medium decomposed peat	
ab 7	105	125	grey-brown	medium decomposed peat	
ab 7	125	128	fine-mid grained	sand	
ab 7	128	134	grey-brown	wood	
ab 7	134	137	dark olive	medium decomposed peat	peat

ab 7 137 147 light beige detritus gyttja gyttja
ab 7 147 155 dark olive fine-mid grained sandsand

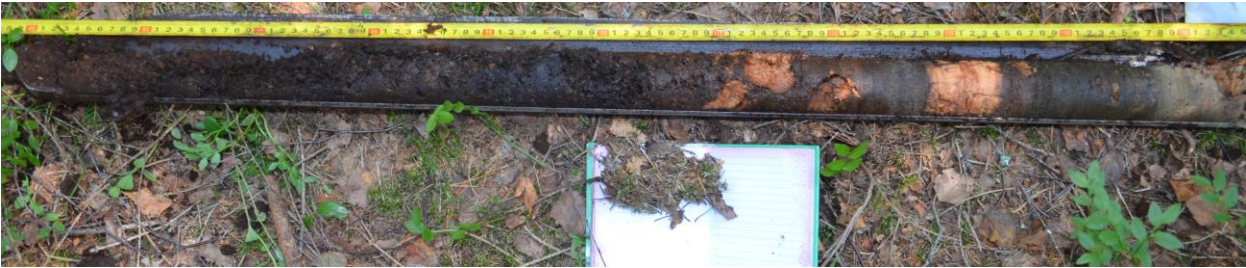


Fig. 34. ab 7 (55-155)

Mastercore of AB 6 borehole presented in the fig. 35.

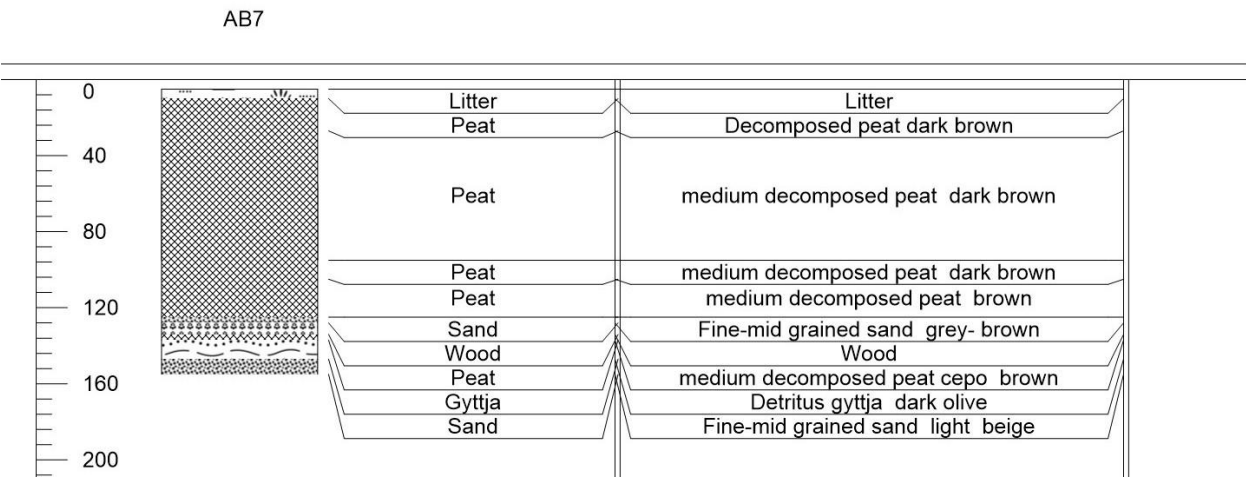


Fig. 35. Mastercore of AB 6 borehole

b (0-10)

b 0 5 litter
b 5 10 fine-mid grained sand

Mastercore of B borehole presented in the fig. 36

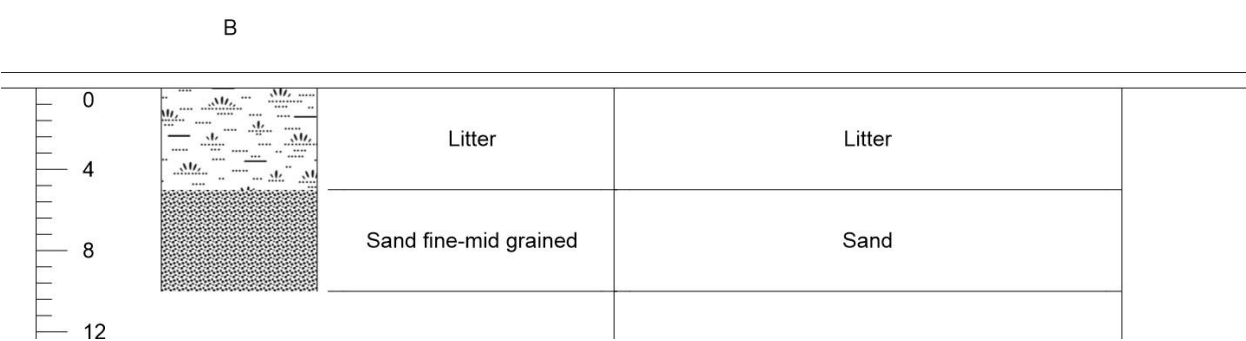


Fig. 36. Mastercore of B borehole.

ab 8 (0-55)

ab 8	0	20	moss
ab 8	20	36	dark brown decomposed peat
ab 8	36	55	beige fine-mid grained sand



Fig. 37. ab 8 (0-55)

Mastercore of AB 8 borehole presented in the fig. 38

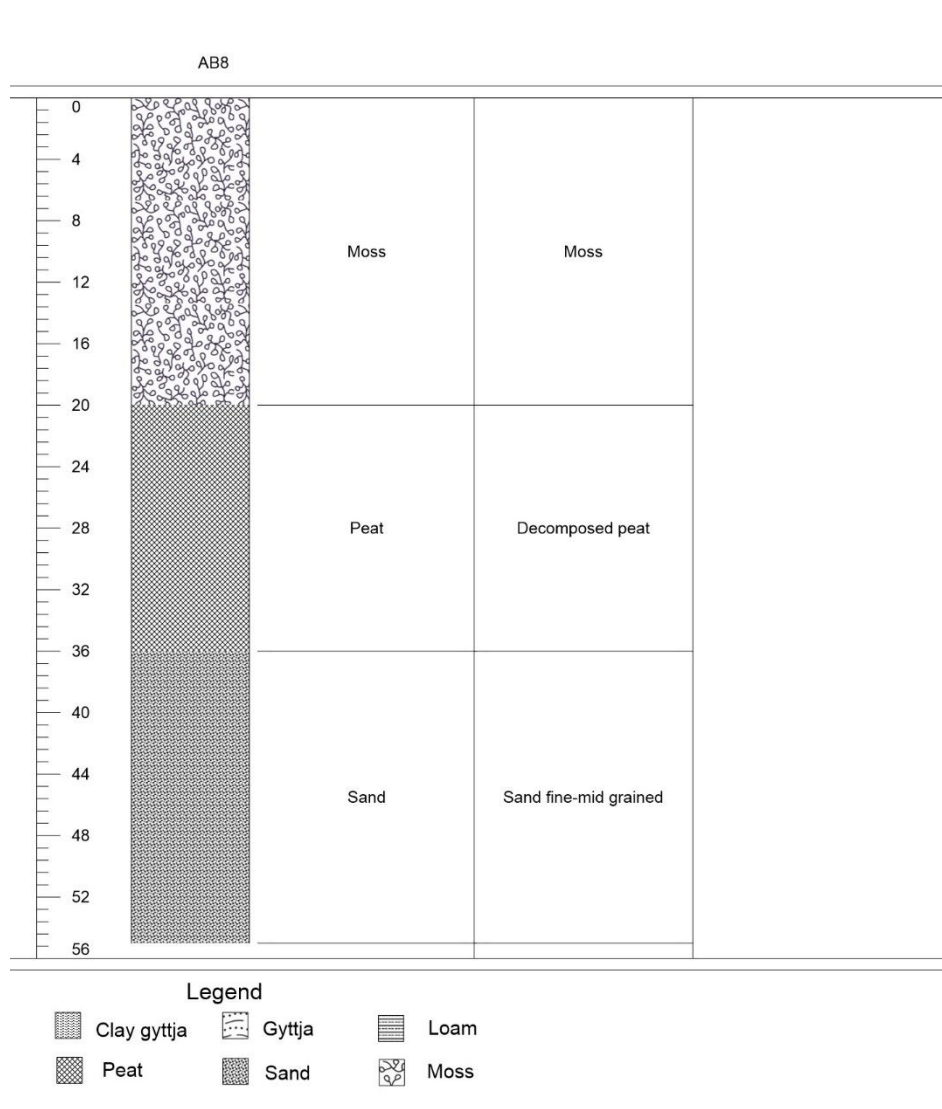


Fig. 38. Mastercore of B borehole

fd 4 (0-100)			
fd 4	0	7	litter
fd 4	7	19	brown decomposed peat
fd 4	19	32	brown medium decomposed peat
fd 4	32	100	brown badly decomposed peat



Fig. 39. fd 4 (0-100)

Fd 4 (100-200)			
fd 4	100	200	brown badly decomposed peat



Fig. 40. fd 4 (100-200)

Fd 4 (200-300)			
fd 4	200	300	brown badly decomposed peat



Fig. 41. fd 4 (200-300)

Fd 4 (300-400)				
fd 4	300	310	brown badly decomposed peat	
fd 4	310	329	dark brown	medium decomposed peat peat
fd 4	329	370	dark brown	badly decomposed peat peat
fd 4	370	374	light brown	detritus gyttja gyttja
fd 4	374	388	light-brown	gyttja
fd 4	388	393	olive	gyttja
fd 4	393	396	light brown	gyttja
fd 4	396	400	olive	gyttja



Fig. 42. fd 4 (300-400)

Fd 4 (400-500)				
fd 4	400	402	olive	gyttja
fd 4	402	407	light brown	gyttja
fd 4	407	439	dark olive	gyttja
fd 4	439	446	light brown	gyttja
fd 4	446	456	olive	gyttja
fd 4	456	500	dark olive	gyttja

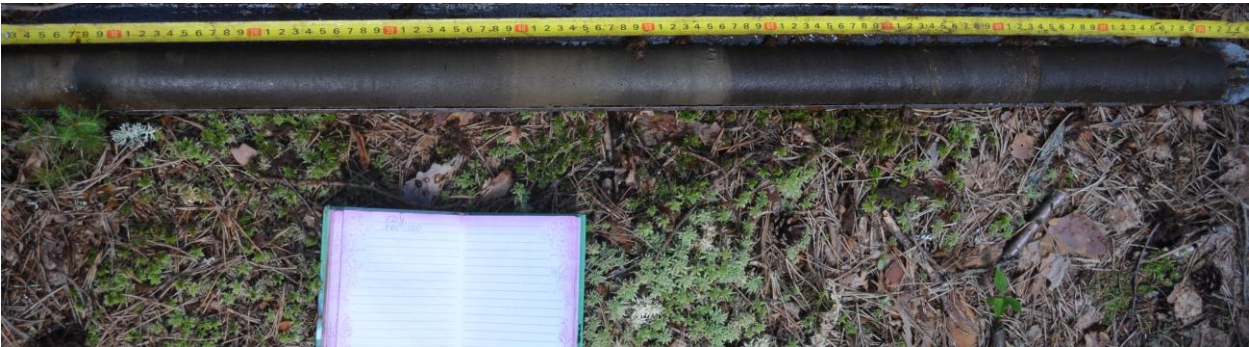


Fig. 43. fd 4 (400-500)

Fd 4 (490-590)				
fd 4	490	552	dark olive	gyttja
fd 4	552	569,5	grey olive	clay gyttja
fd 4	569,5	571	dark brown	medium decomposed peat peat
fd 4	571	576	dark grey	fine grained sand sand
fd 4	576	590	beige	fine grained sand

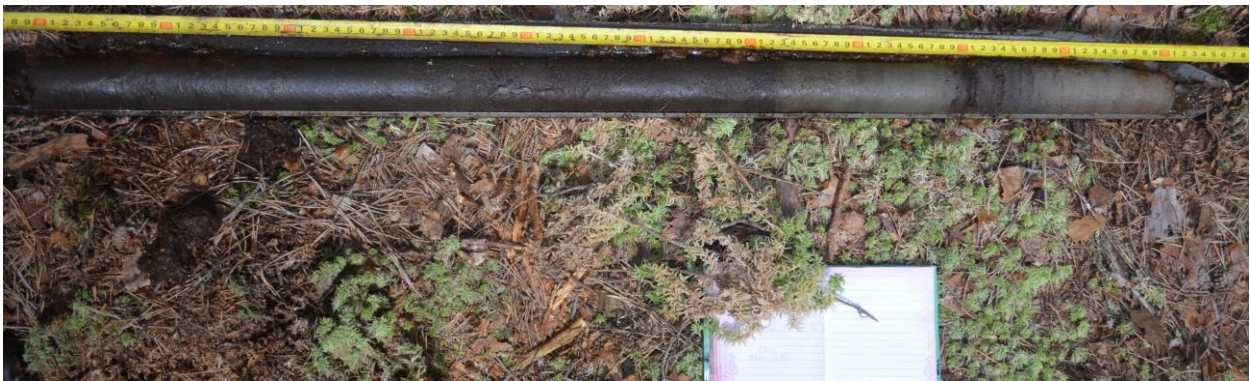


Fig. 44. fd 4 (490-590)

Mastercore of FD 4 borehole presented in the fig. 45.



Fig. 46. fd 6 (0-100)

Fd 6 (100-200)

fd 6	100	135	brown badly decomposed	peat
fd 6	135	165	brown medium decomposed	peat
fd 6	165	200	brown badly decomposed	peat



Fig. 47. fd 6 (100-200)

Fd 6 (200-300)

fd 6	200	245	brown badly decomposed	peat
fd 6	245	300	brown medium decomposed	peat



Fig. 48. fd 6 (200-300)

Fd 6 (300-400)

fd 6	300	400	brown medium decomposed	peat
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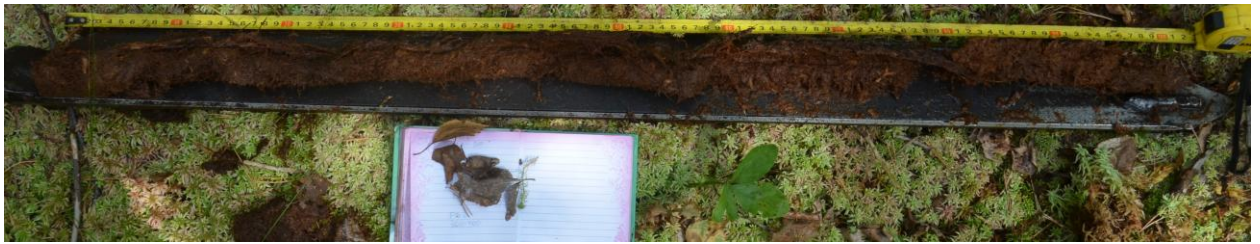


Fig. 49. fd 6 (300-400)

Fd 6 (400-500)

fd 6	400	429	brown medium decomposed peat	
fd 6	429	463	light brown	gyttja
fd 6	463	485	olive	gyttja
fd 6	485	500	dark olive	gyttja



Fig. 50. fd 6 (400-500)

Fd 6 (500-600)

fd 6	500	600	olive	gyttja
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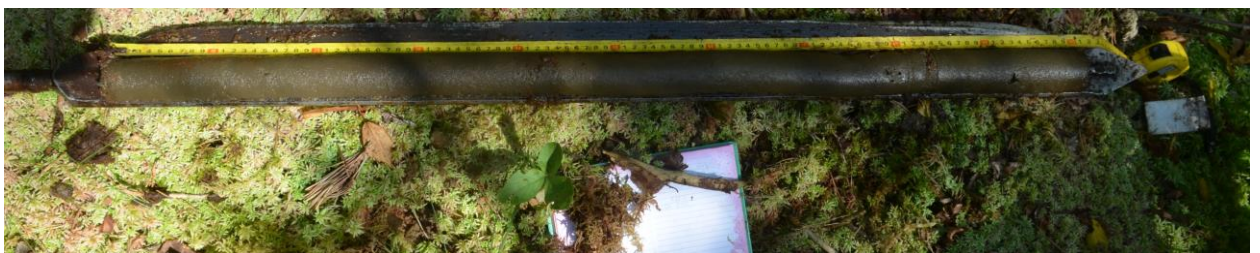


Fig. 51. fd 6 (500-600)

Fd 6 (600-700)

fd 6	600	700	dark olive	gyttja
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Fig. 52. fd 6 (600-700)

				Fd 6 (700-800)
fd 6	700	800	dark olive	gyttja

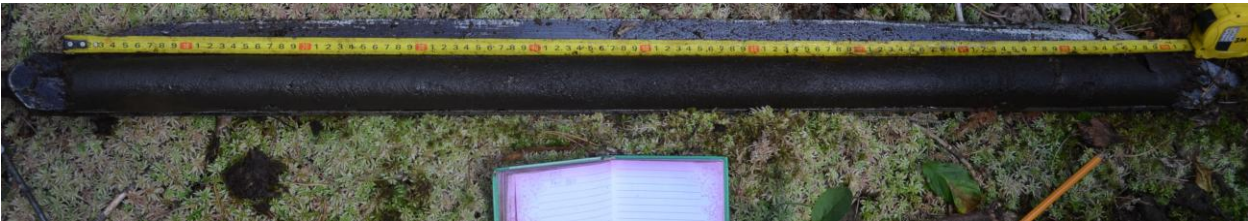


Fig. 53. fd 6 (700-800)

				Fd 6 (800-900)
fd 6	800	900	dark olive	gyttja

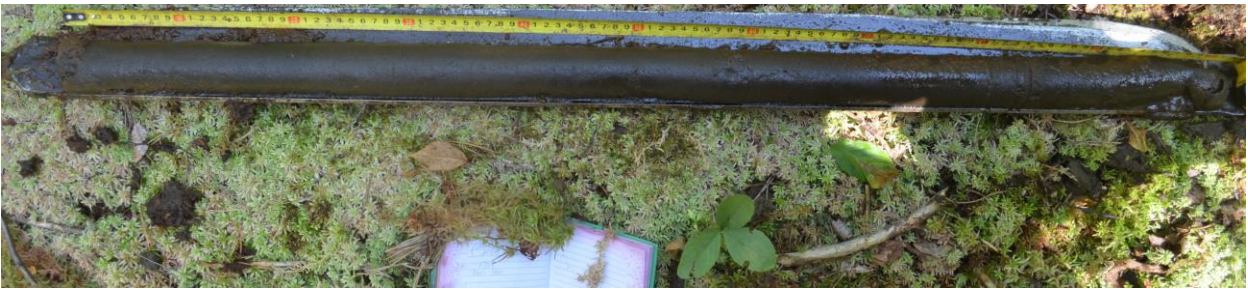


Fig. 54. fd 6 (800-900)

				Fd 6 (900-1000)
fd 6	900	921	dark olive	gyttja
fd 6	921	982	olive clay	gyttja
fd 6	982	998	beige fine-mid grained	sand
fd 6	998	1000	dark brown	medium decomposed peat

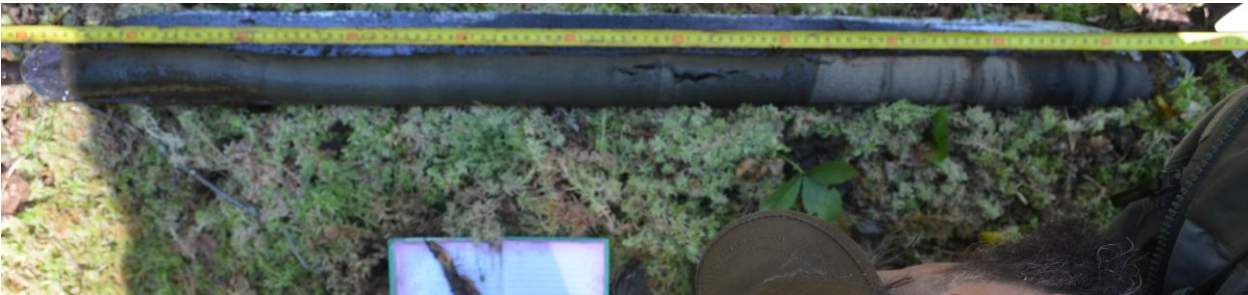


Fig. 55. fd 6 (900-1000)

Mastercore of FD 6 borehole presented in the fig. 56.

FD 6

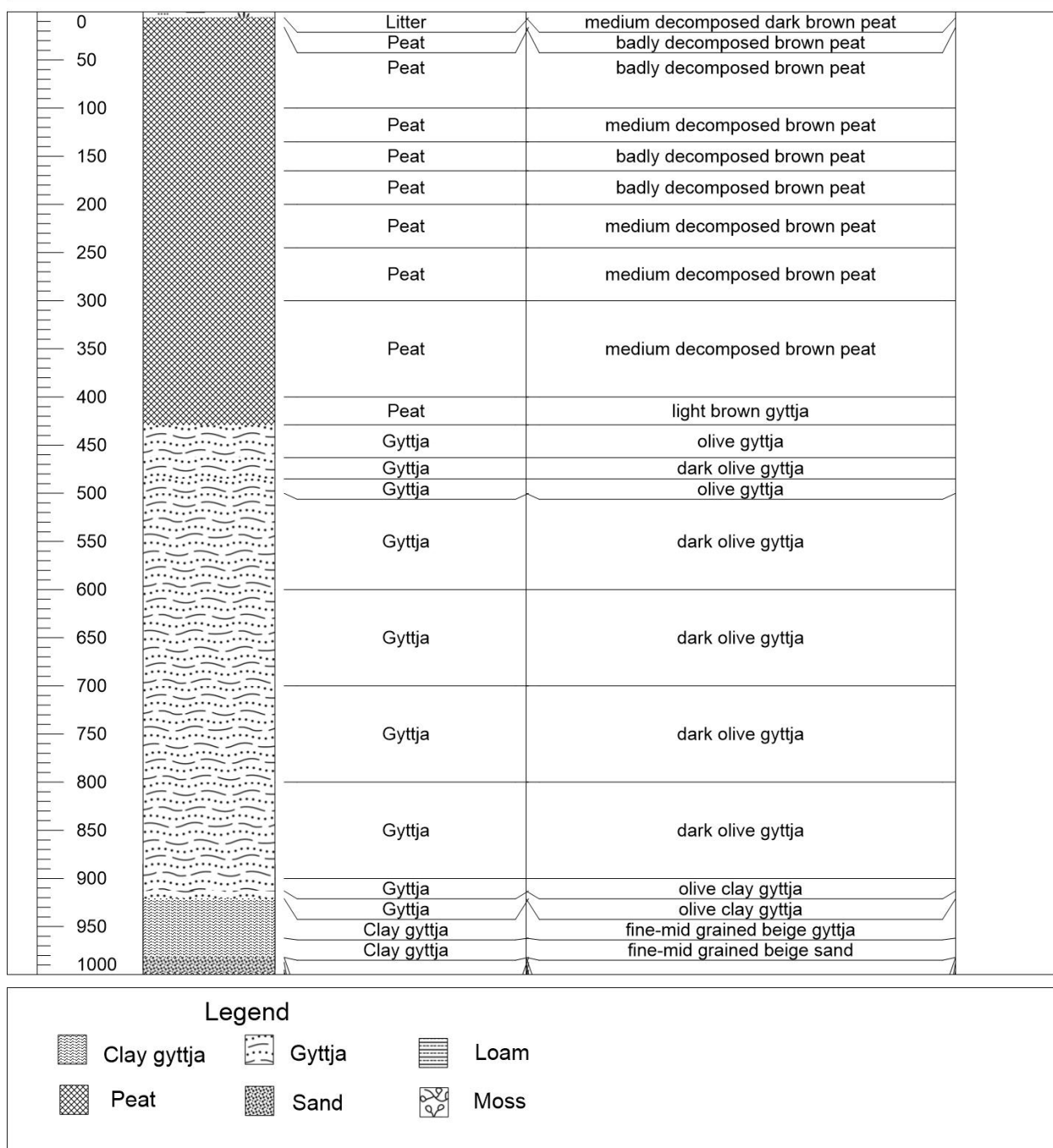


Fig. 56. Mastercore of FD 6 borehole.

Cd 1 (655-755)

cd 1 655 657 brown medium decomposed peat

cd 1 657 693 olive gyttja

cd 1	693	697	dark brown	detritus	gyttja
cd 1	697	705	brown	gyttja	
cd 1	705	743	grey olive	gyttja	
cd 1	743	749	dark brown	medium decomposed	peat
cd 1	749	755	grey beige	fine-mid grained	sand

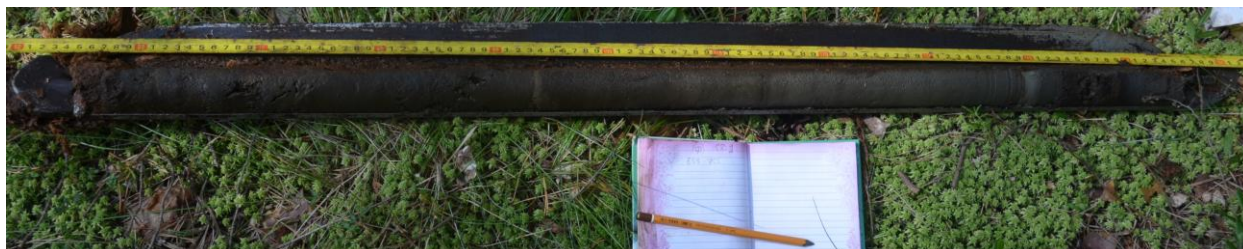


Fig. 57. Cd 1 (655-755)

Mastercore of CD 1 borehole presented in the fig. 58.

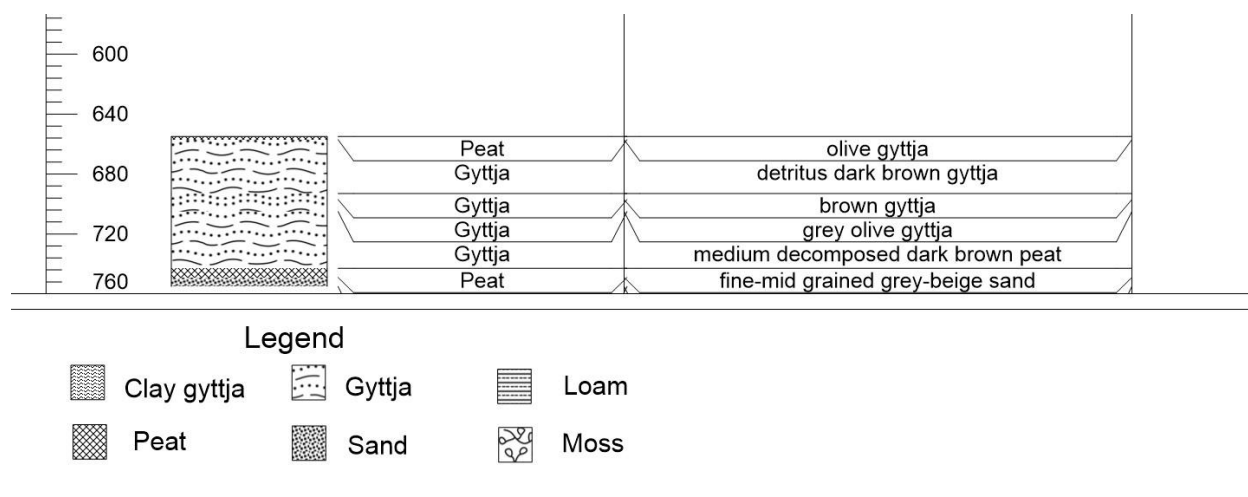


Fig. 58. Mastercore of CD 1 borehole.

Cd 2 (0-70)

cd 2	0	6	brown	medium decomposed	peat
cd 2	6	9	brown	badly decomposed	peat
cd 2	9	14	grey	loam	
cd 2	14	19	grey	Суглинок оторфованный	peaty loam
cd 2	19	52	black	decomposed	peat
cd 2	52	70	brown	badly decomposed	peat



Fig. 59. Cd 2 (0-70)

Mastercore of CD 2 borehole presented in the Fig. 60.

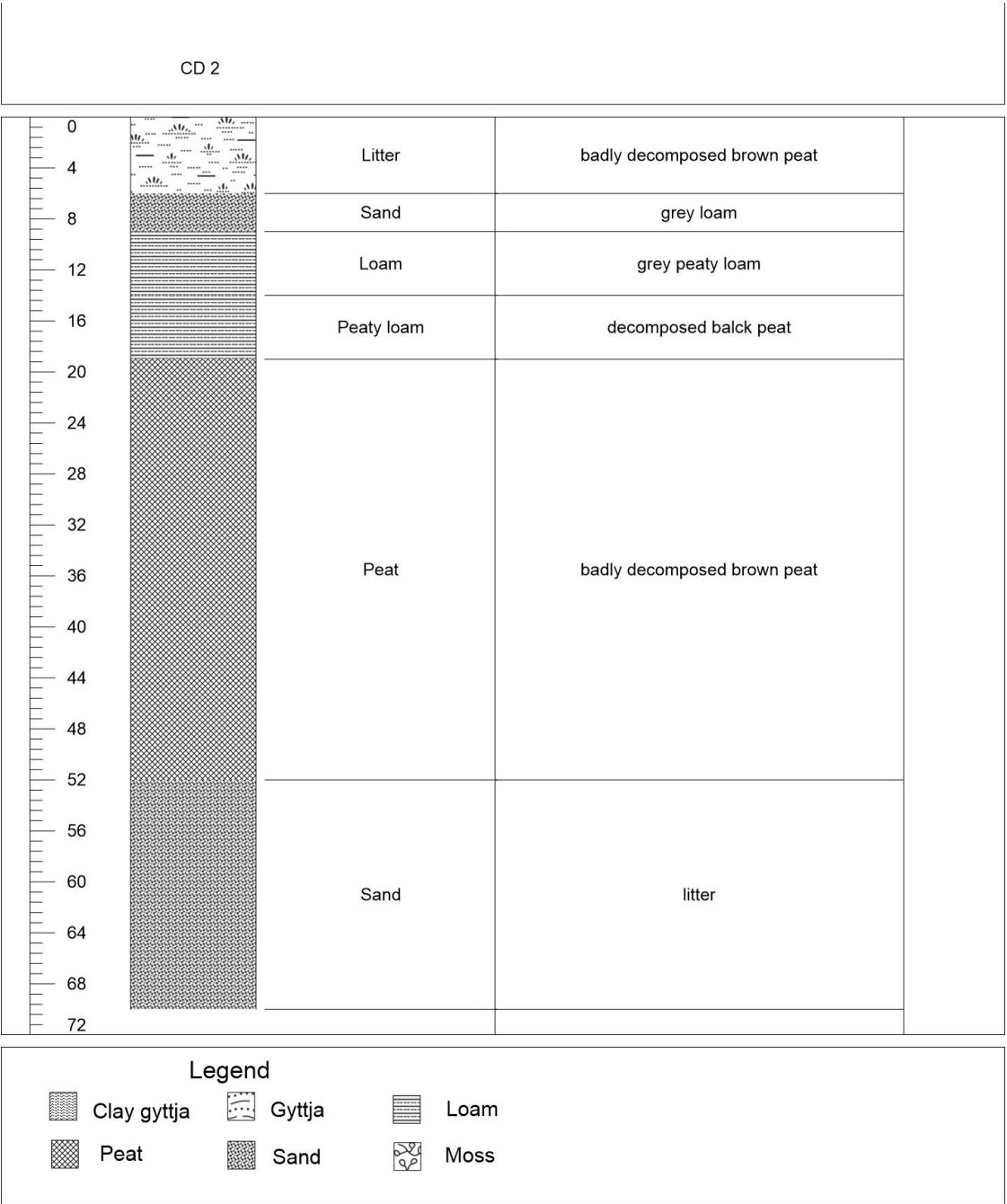


Fig. 60. Mastercore of CD 2 borehole

Fd 8 (0-100)

fd 8	0	10	litter
fd 8	10	23	brown medium decomposed peat
fd 8	23	100	brown badly decomposed peat



Fig. 61. fd 8 (0-100)

Fd 8 (100-200)

fd 8	100	200	brown badly decomposed peat
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Fig. 62. fd 8 (100-200)

Fd 8 (200-300)

fd 8	200	223	brown badly decomposed peat
fd 8	223	300	brown medium decomposed peat



Fig. 63. fd 8 (200-300)

Fd 8 (300-400)

fd 8	300	336	brown	medium decomposed	peat
fd 8	336	342	wood		peat
fd 8	342	369	black	badly decomposed	peat
fd 8	369	376	light brown	detritus	gyttja
fd 8	376	384	olive	detritus	gyttja
fd 8	384	392	olive		gyttja
fd 8	392	400	brown		gyttja



Fig. 64. fd 8 (300-400)

Fd 8 (400-500)

fd 8	400	408	brown	gyttja	
fd 8	408	500	dark olive	detritus	gyttja



Fig. 65. fd 8 (400-500)

Mastercore of FD 8 borehole presented in the Fig. 66.

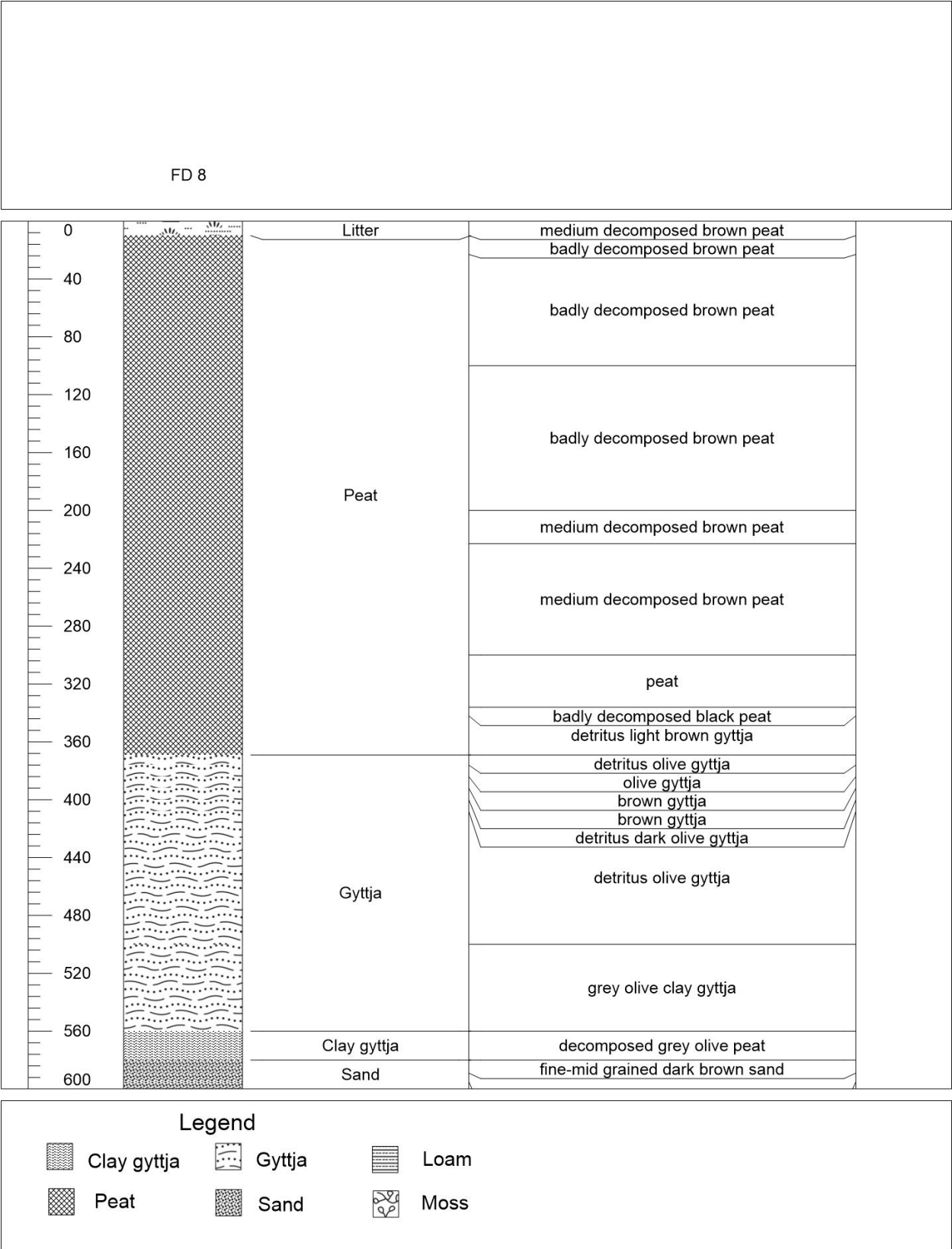


Fig. 66. Mastercore of FD 8 borehole

Fd 7 (500-600)

fd 8	500	560	olive detritus	gyttja
fd 8	560	580	grey olive	clay gyttja
fd 8	580	589	dark brown	decomposed peat sand

fd 8	589	595	dark grey	fine-mid grained	sand
fd 8	595	600	beige	fine grained	sand



Fig. 67. fd 8 (500-600)

fd 7 (0-100)

fd7	0	10	litter		
fd7	10	29	brown medium decomposed peat		
fd7	29	100	brown medium decomposed peat		



Fig. 68. fd 7 (0-100)

Fd 7 (100-200)

fd7	100	183	brown medium decomposed peat		
fd7	183	191	black medium decomposed peat		
fd7	191	200	brown detritus gyttja		



Fig. 69. fd 7 (100-200)

Fd 7 (130-230)

fd7	130	171	brown medium decomposed peat		
fd7	171	174	black medium decomposed peat		

fd7 174 210 dark olive clay gyttja clay gyttja
fd7 210 230 beige fine-mid grained sand

Fig. 70. fd 7 (130-230)



Mastercore of FD 7 borehole presented in the Fig. 71.

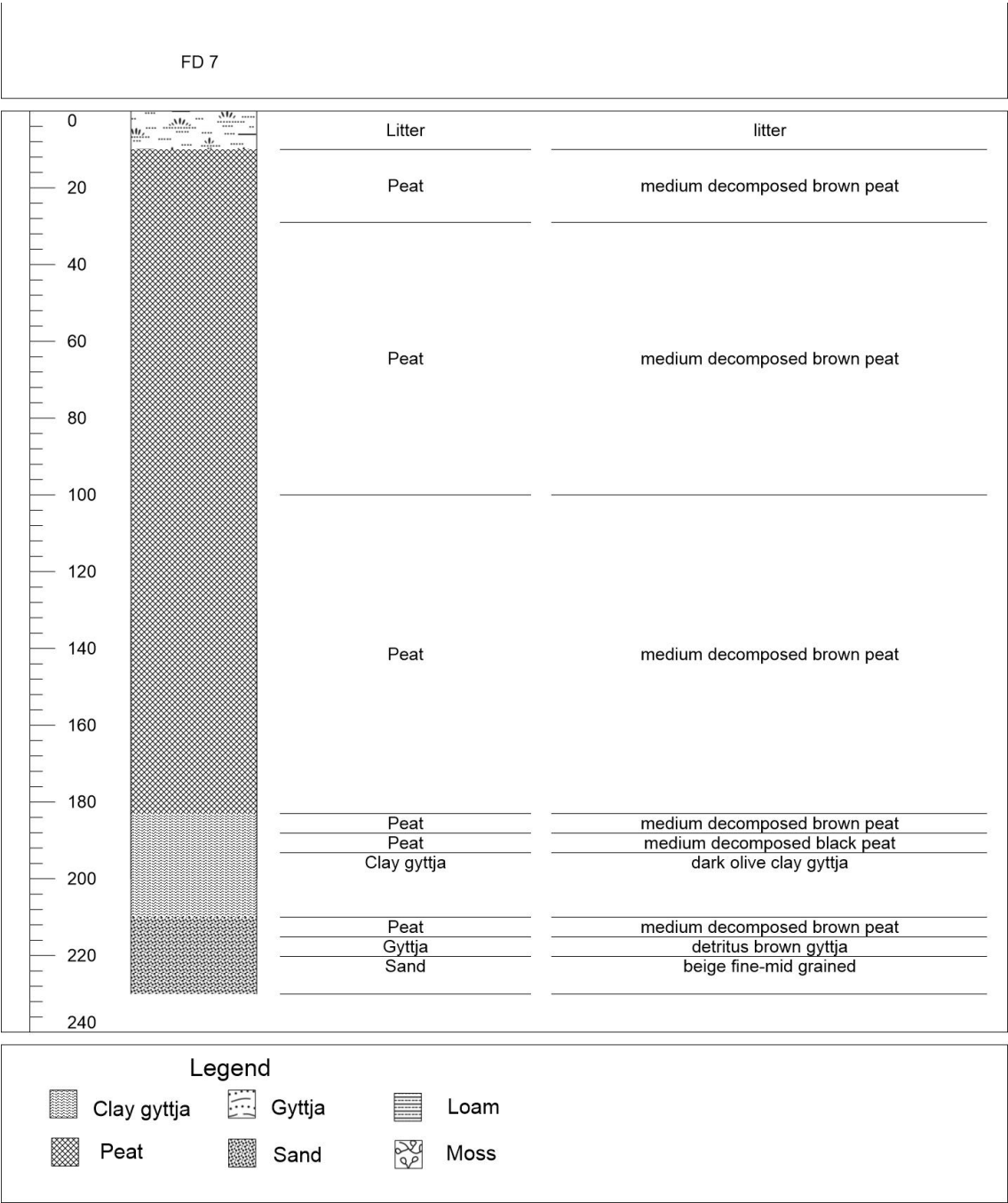


Fig. 71. Mastercore of FD 7 borehole

Cd 3 (0-100)					
cd3	0	5	litter		
cd3	5	10	brown decomposed peat	peat	
cd3	10	54	brown medium decomposed peat	peat	
cd3	54	100	brown badly decomposed	peat	



Fig. 72. Cd 3 (0-100)

Cd 3 (85-185)					
cd3	85	185	brown badly decomposed	peat	



Fig. 73. Cd 3 (85-185)

Cd 3 (150-250)					
cd3	150	199	brown	peat	
cd3	199	209	dark olive	clay gyttja	
cd3	209	228	brown detritus	gyttja	
cd3	228	245	dark beige	fine-mid grained	sand
cd3	245	250	light beige	fine-mid grained	sand



Fig. 74. Cd 3 (150-250)

Mastercore of CD 3 borehole presented in the Fig. 75.

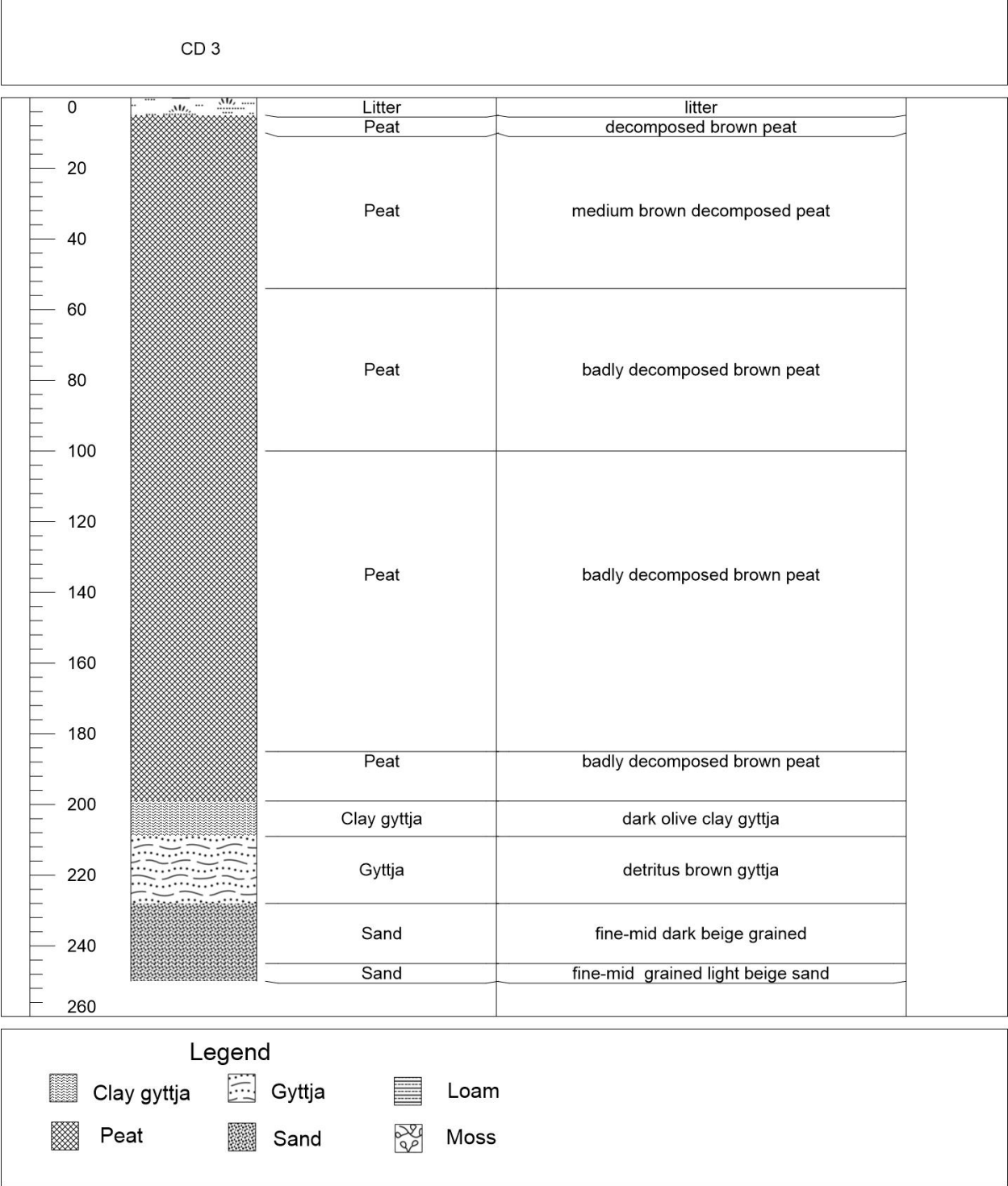


Fig. 75. Mastercore of CD 3 borehole.

cd 4 (0-85)				
cd4	0	7	litter	
cd4	7	73	brown decomposed peat	peat



Fig. 76. Cd 4 (0-85)

Mastercore of CD 4 borehole presented in the Fig. 77.

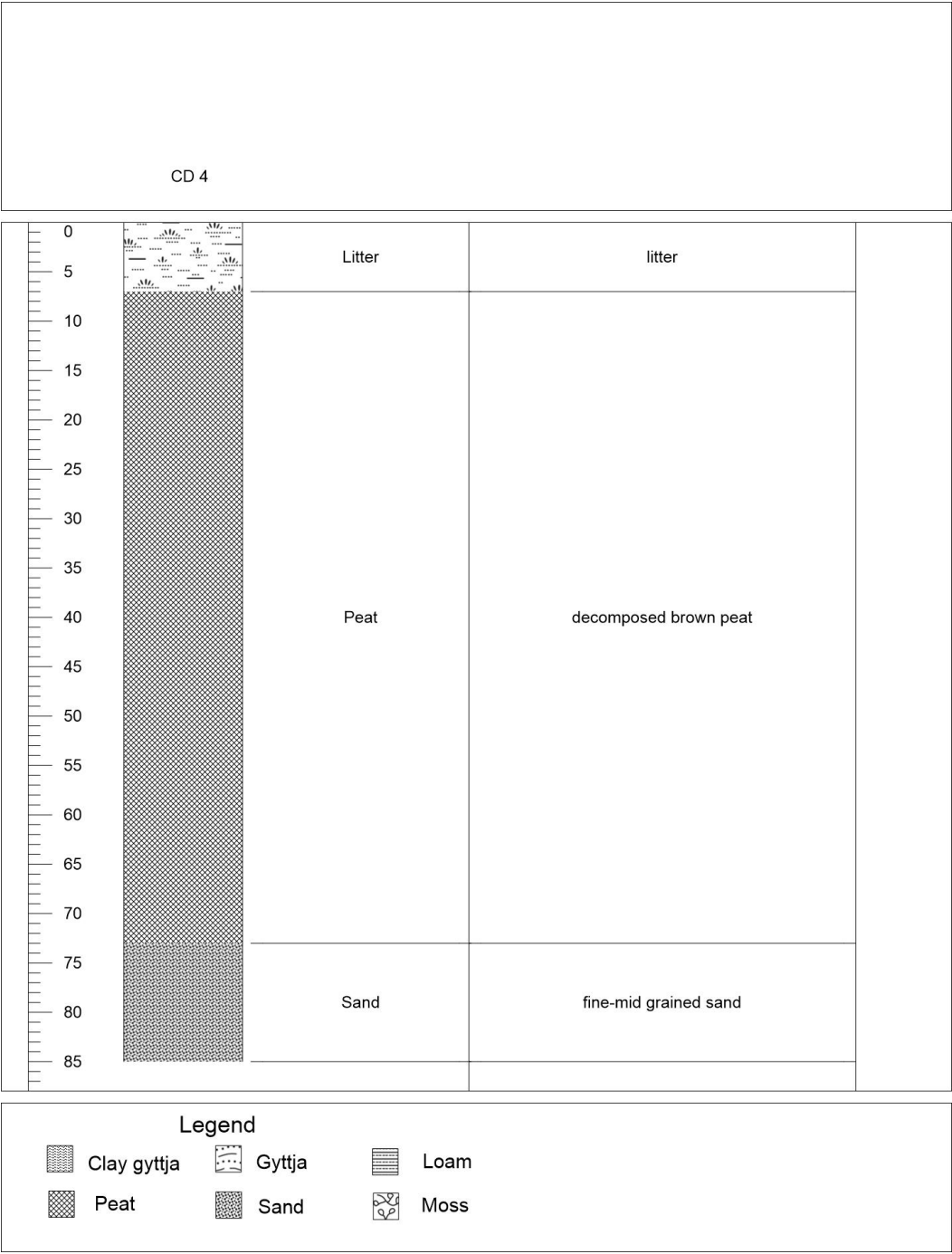


Fig. 77. Mastercore of CD 3 borehole

Fd 5 (0-85)			
fd5	0	6	litter
fd5	6	60	brown medium decomposed peat
fd5	60	85	dark brown medium decomposed peat

fd 5 (75-175)			
fd5	75	102	brown medium decomposed peat
fd5	102	120	brown medium decomposed peat
fd5	120	130	dark brown decomposed peat peat
fd5	130	137	dark olive clay gyttja
fd5	137	153	fine grained sand
fd5	153	159	brown gyttja
fd5	159	174	brown fine-mid grained sand
fd5	174	175	grey fine-mid grained sand

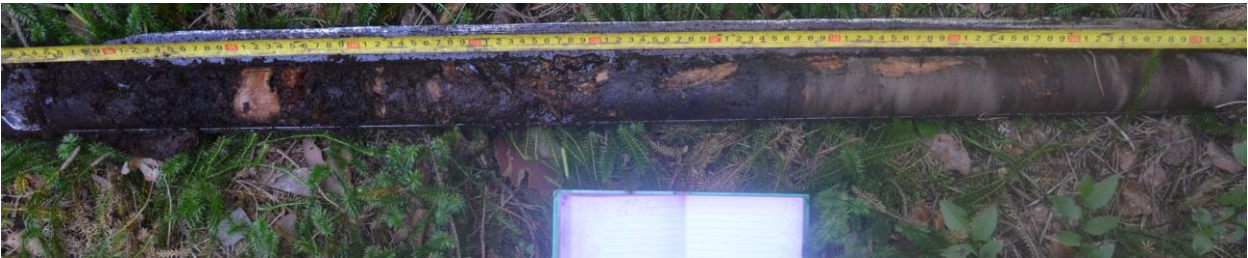


Fig. 78. fd 5 (75-175)

Mastercore of FD 5 borehole presented in the Fig. 79.

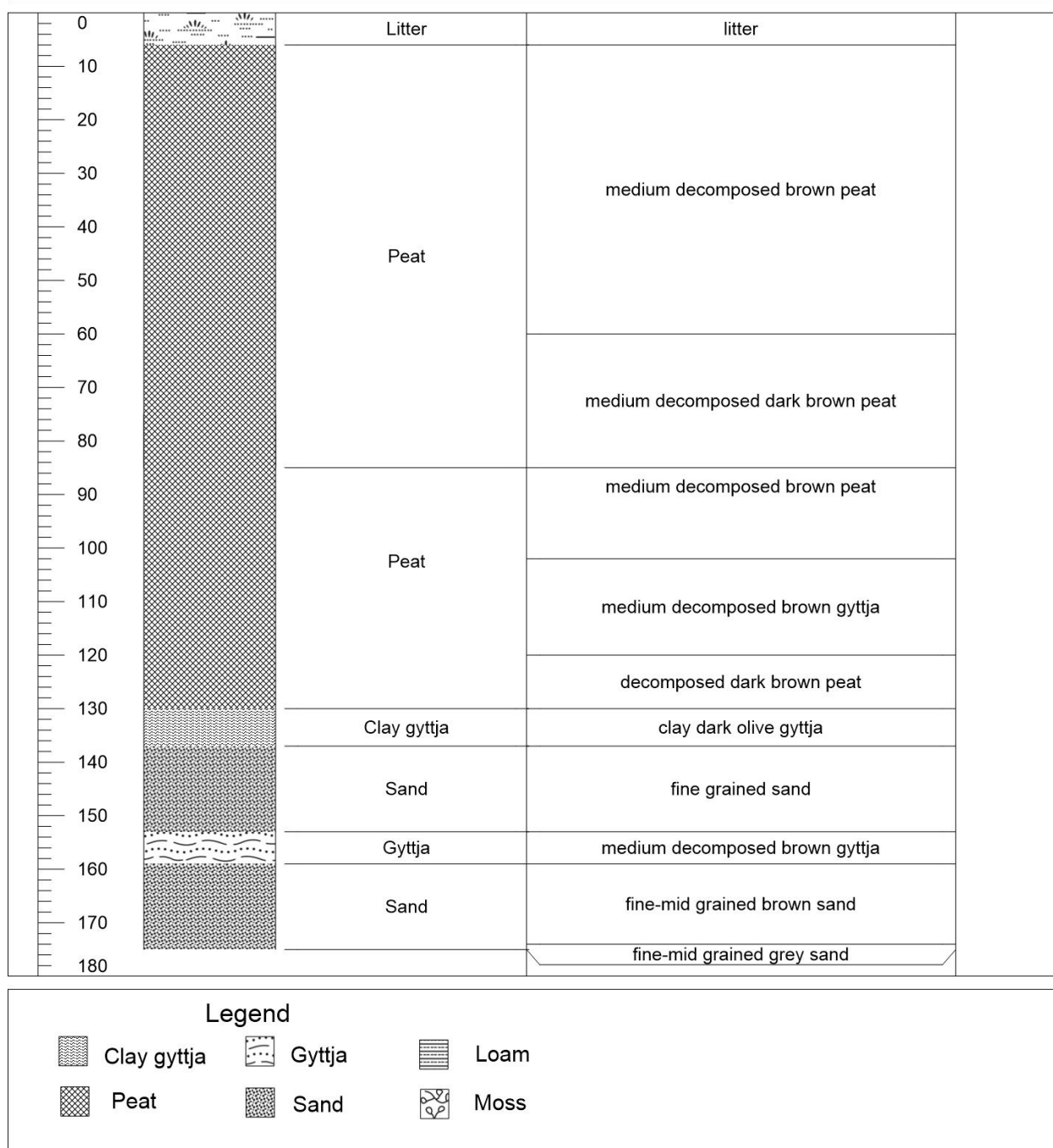


Fig. 79. Mastercore of FD 5 borehole.

Fd 3 (0-91)

fd3	0	9	litter	
fd3	9	76	brown decomposed peat	peat
fd3	76	81	black fine grained	sand
fd3	81	91	brown fine grained	sand



Fig. 80. fd 3 (0-91)/

Mastercore of FD 3 borehole presented in the Fig. 81.

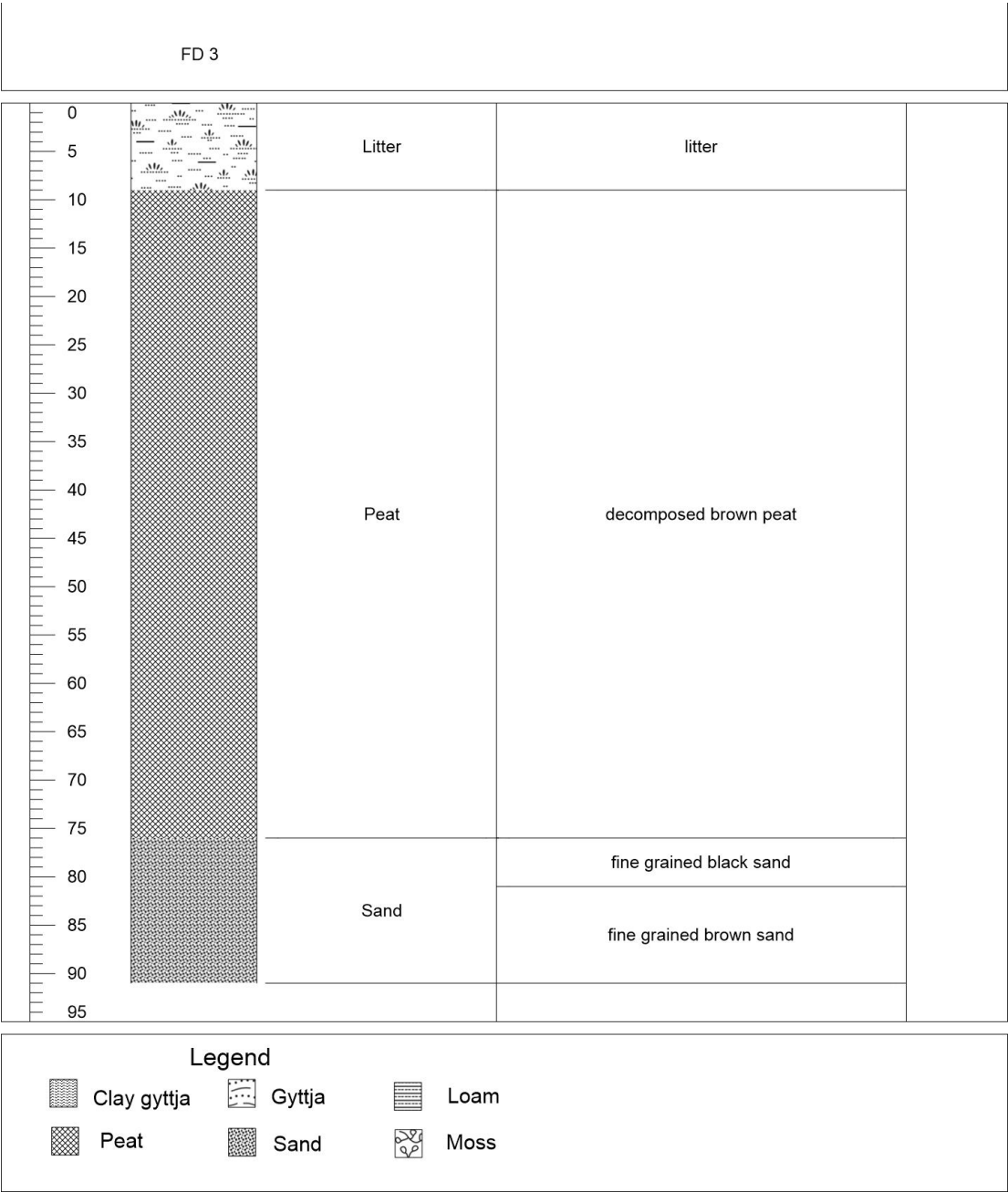


Fig. 81. Mastercore of FD 3 borehole.

Fd 2 (535-635)

fd2	535	610	olive	gyttja	
fd2	610	621	olive clay	gyttja	clay gyttja
fd2	621	635	light grey	fine-mid grained	sand



Fig. 82. fd 2 (535-635)

Fd 2 (403-503)

fd2	403	423	olive	gyttja	
fd2	423	442	light brown	gyttja	
fd2	424	452	olive	gyttja	
fd2	452	461	light brown	gyttja	
fd2	461	503	dark olive	gyttja	



Fig. 83. fd 2 (403-503)

Fd 2 (300-400)

fd2	300	309	brown decomposed peat	peat	
fd2	309	344	brown medium decomposed peat		
fd2	344	365	light brown	detritus gyttja	
fd2	365	400	olive	gyttja	

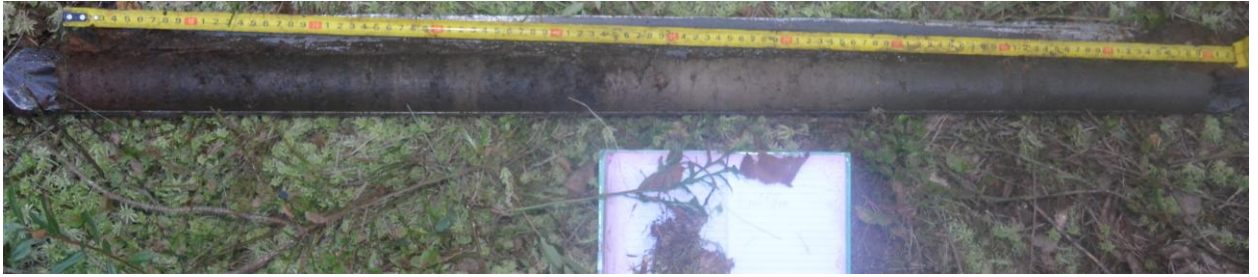


Fig. 84. fd 2 (300-400)

Mastercore of FD 2 borehole presented in the Fig. 85.

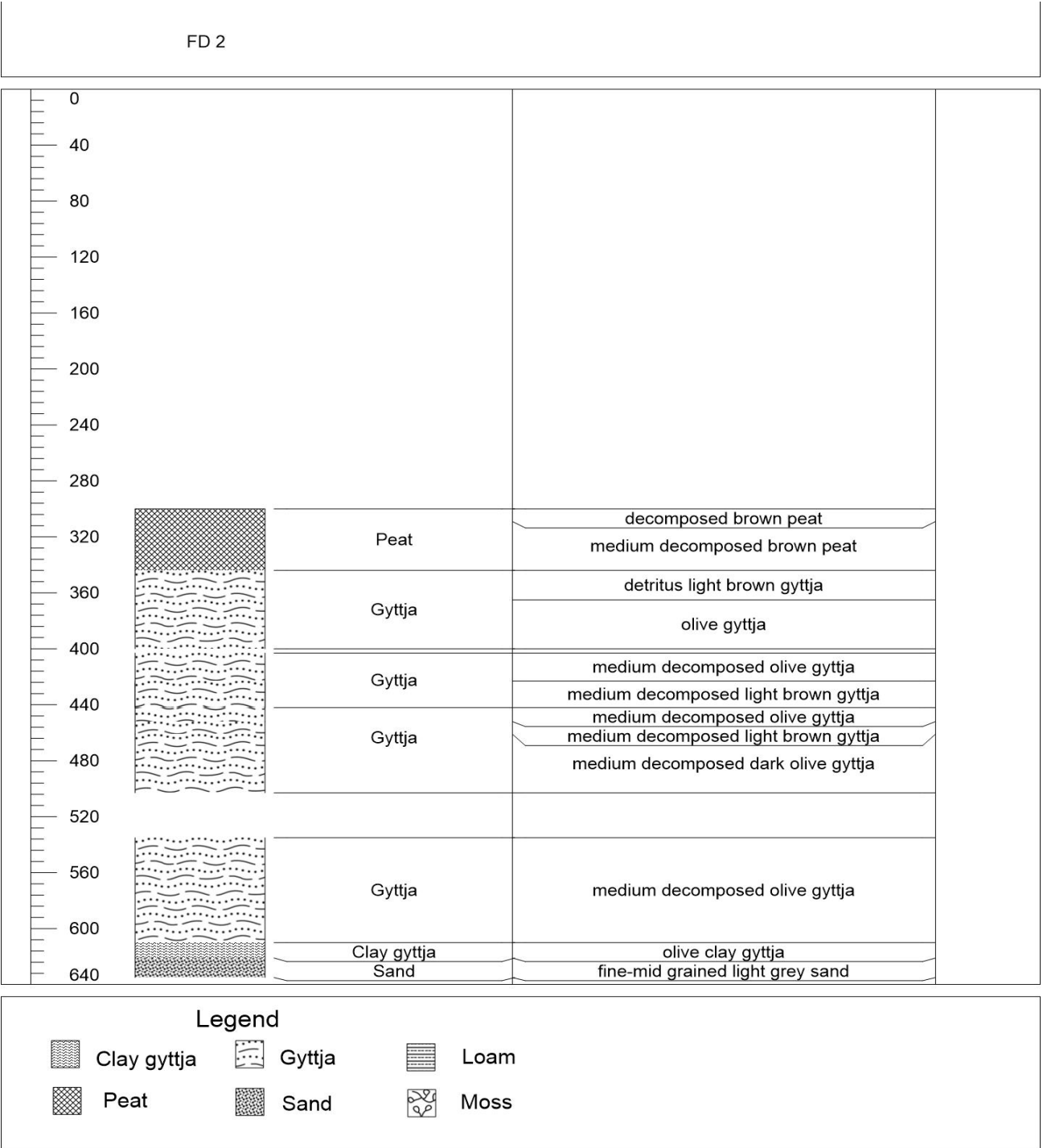


Fig. 85. Mastercore of FD 2 borehole.

Fd 1 (305-405)

fd1	305	325	beige	fine-mid grained	sand
fd1	325	334	dark olive	gyttja	
fd1	334	340	beige	fine-mid grained	sand
fd1	340	343	olive	gyttja	
fd1	343	350	beige	fine-mid grained	sand
fd1	350	370		fine-mid grained	sand
fd1	370	374	brown	gyttja	
fd1	374	378	grey	fine-mid grained	sand
fd1	378	382	dark grey	clay gyttja	
fd1	382	384	grey	fine-mid grained	sand
fd1	384	391	dark brown	medium decomposed peat	
fd1	391	405	dark grey	sand	



Fig. 86. fd 1 (305-405)

Fd 1 (200-300)

fd1	200	210	light brown	gyttja	
fd1	210	239	olive	detritus gyttja	
fd1	239	253	light olive	gyttja	
fd1	253	300	dark olive	gyttja	



Fig. 87. fd 1 (200-300)

Fd 1 (100-200)

fd1	100	109	brown badly decomposed	peat
fd1	109	137	brown medium decomposed	peat
fd1	137	142	peat	
fd1	142	162	brown decomposed peat	peat
fd1	162	186	brown badly decomposed	peat
fd1	186	200	light brown	gyttja



Fig. 88. fd 1 (100-200)

Mastercore of FD 1 borehole presented in the Fig. 89.

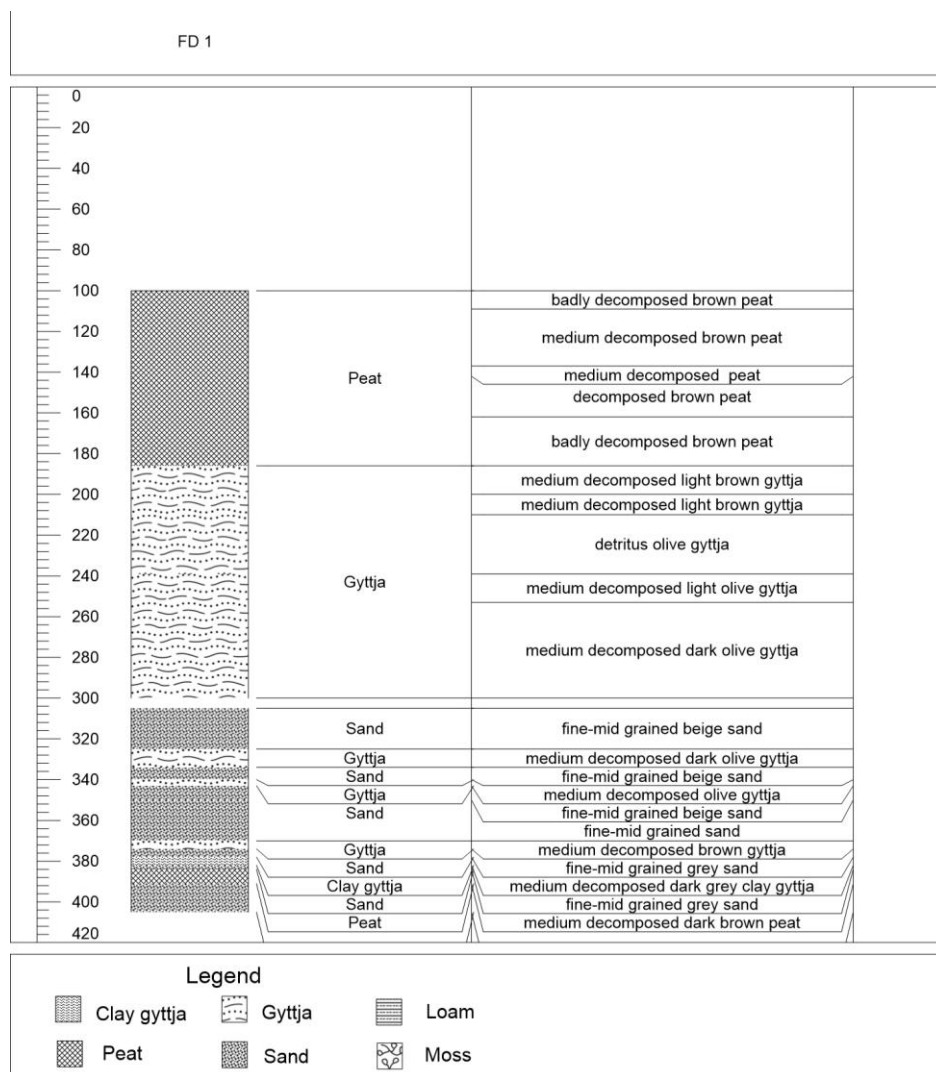


Fig. 89. Mastercore of FD 1 borehole.

Crossections

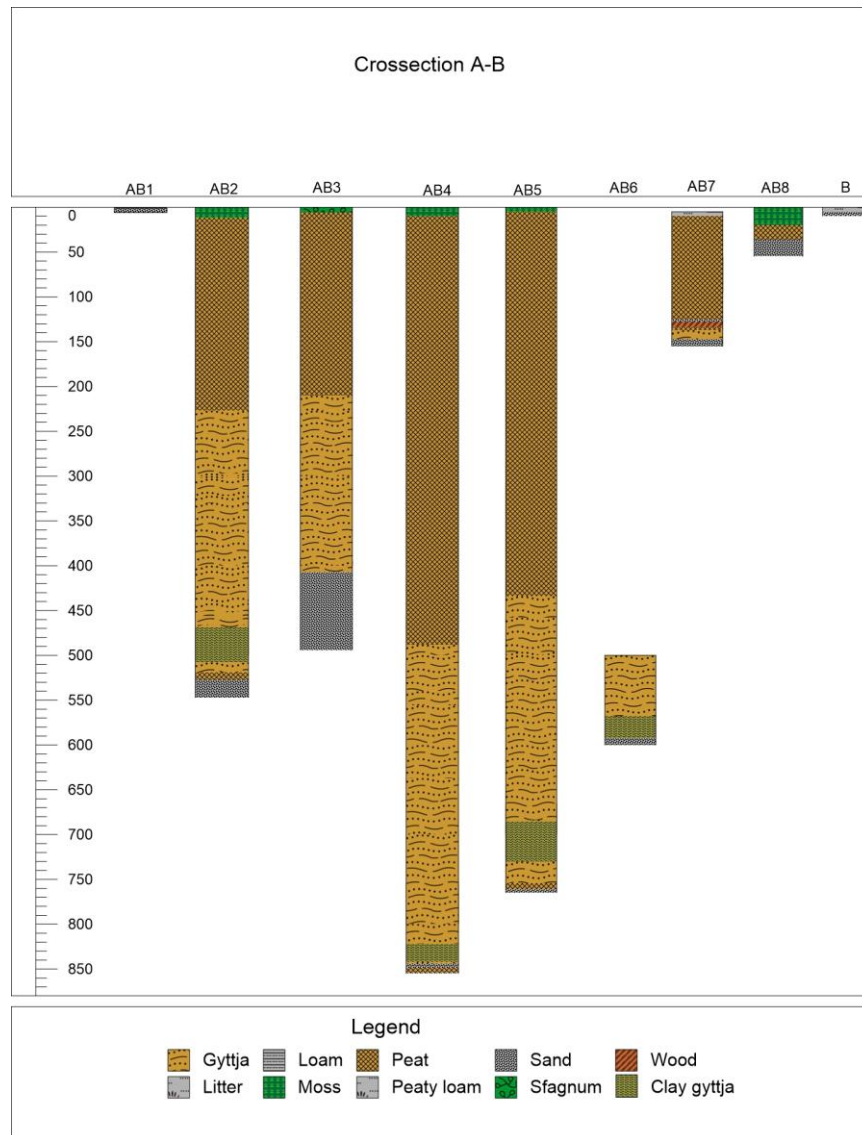
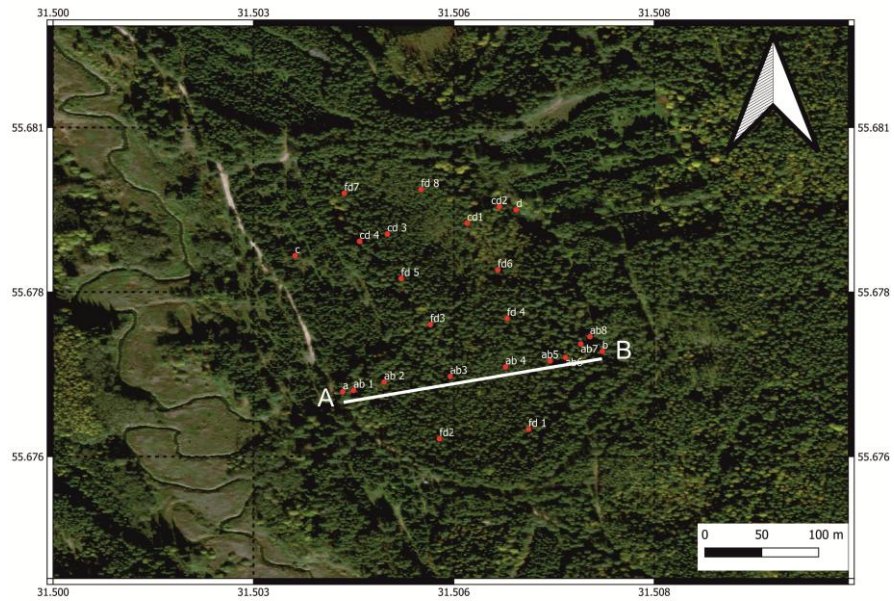


Fig. 90. AB crossection

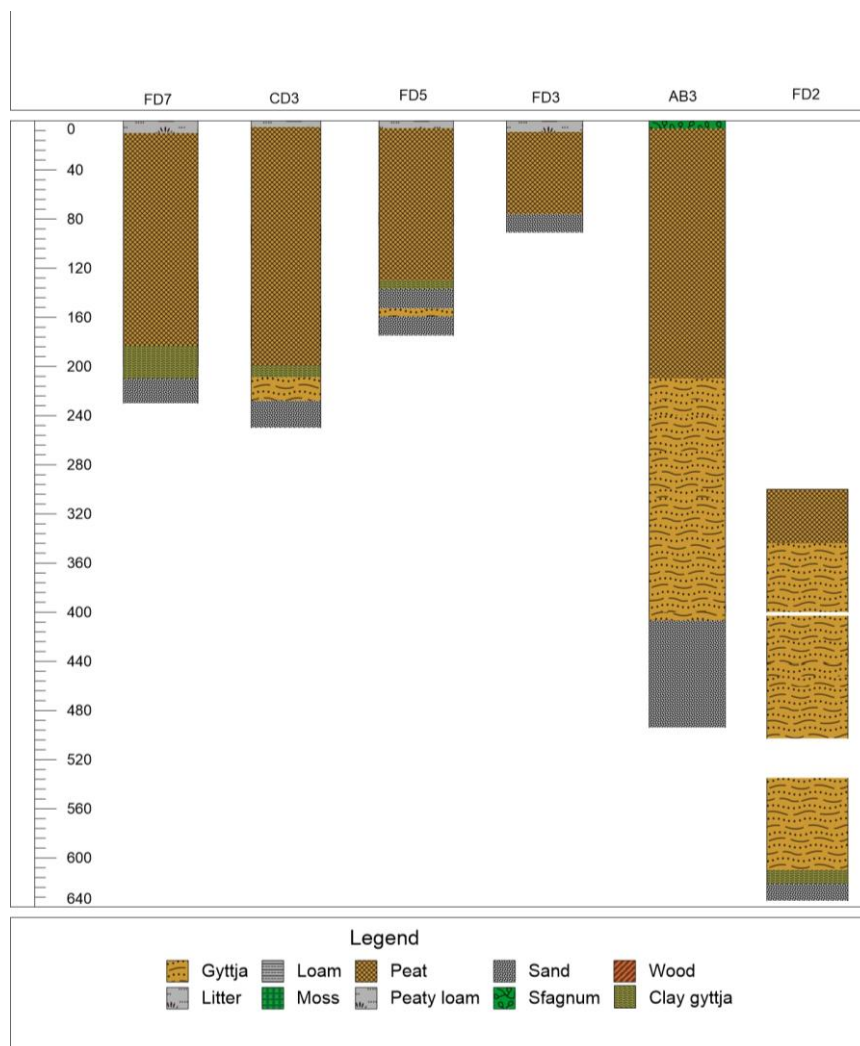
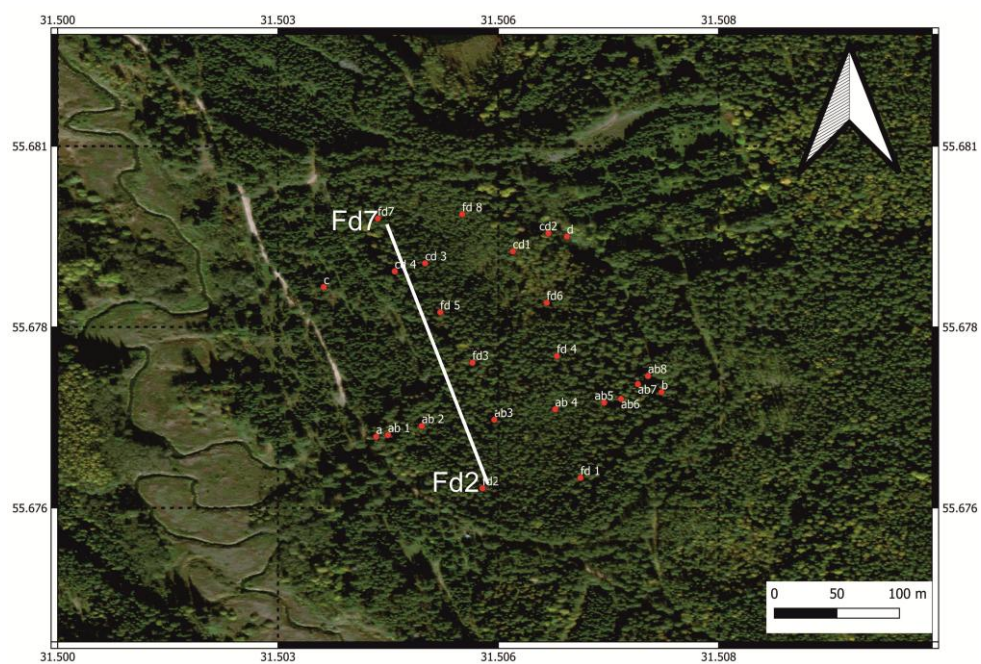


Fig. 91. FD7-FD2 crossection

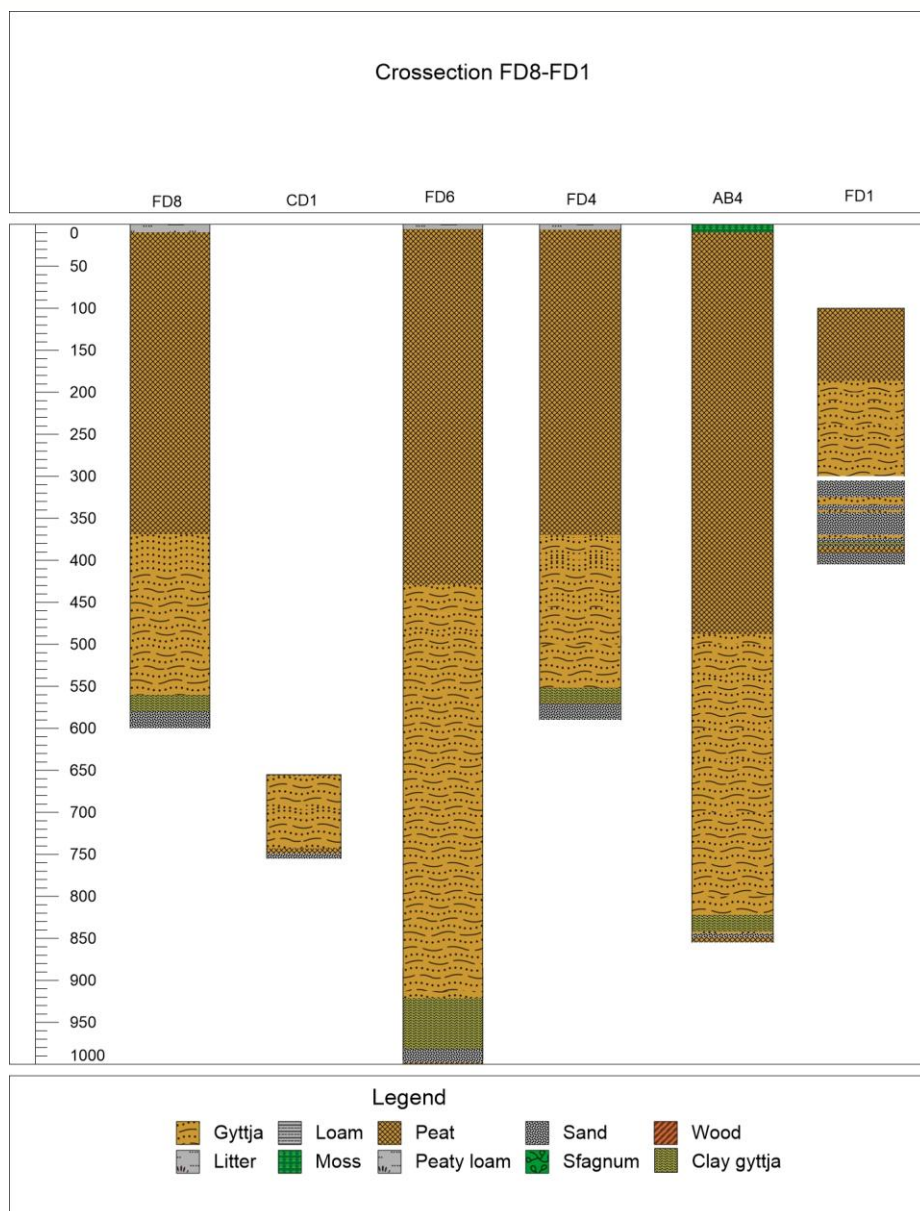
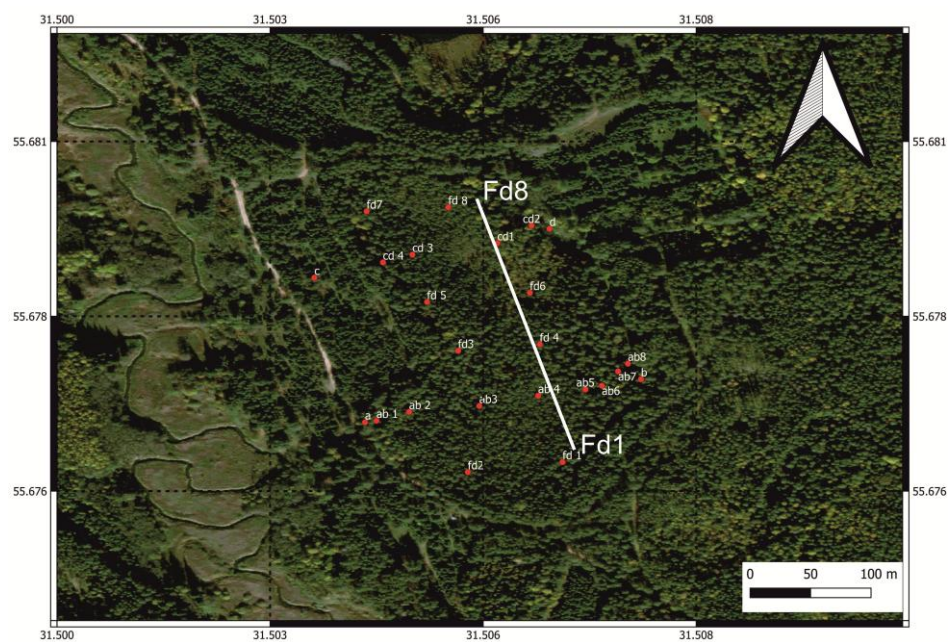


Fig. 92. FD8-FD1 crossection

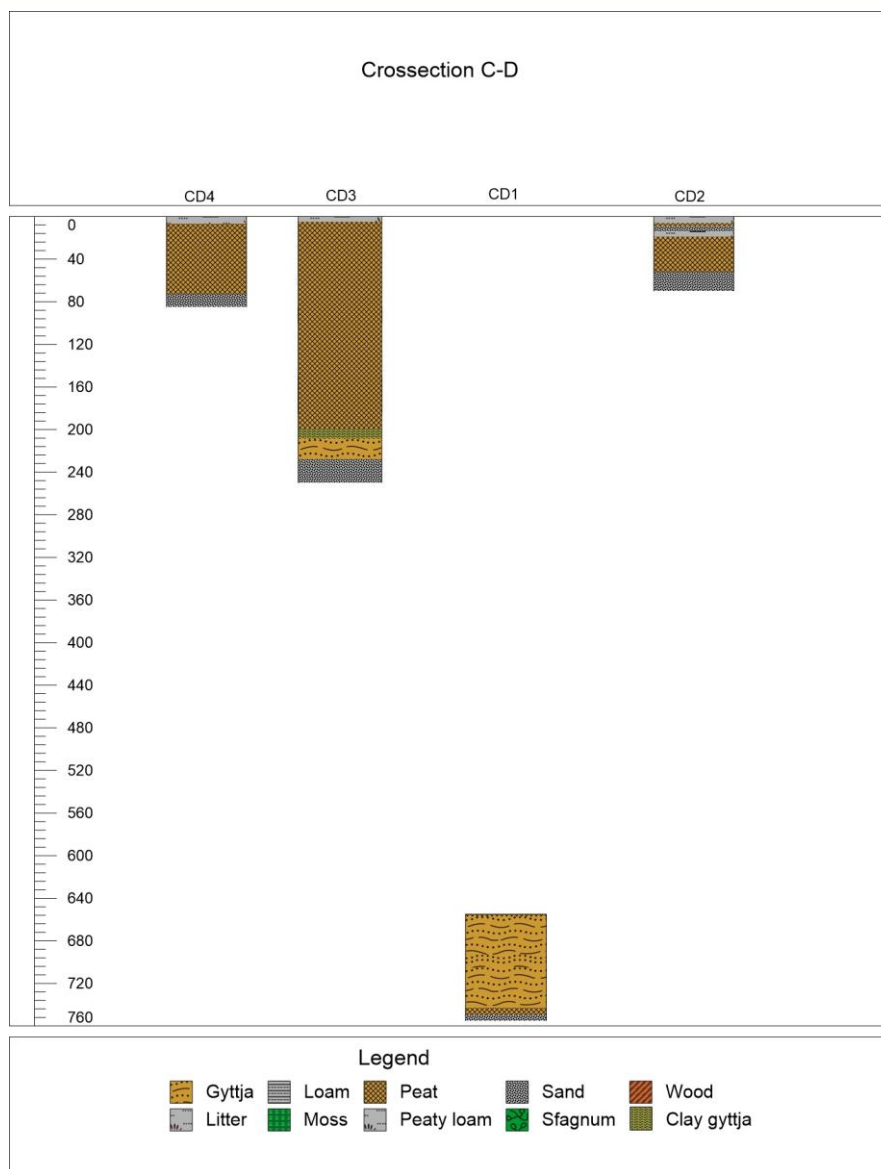
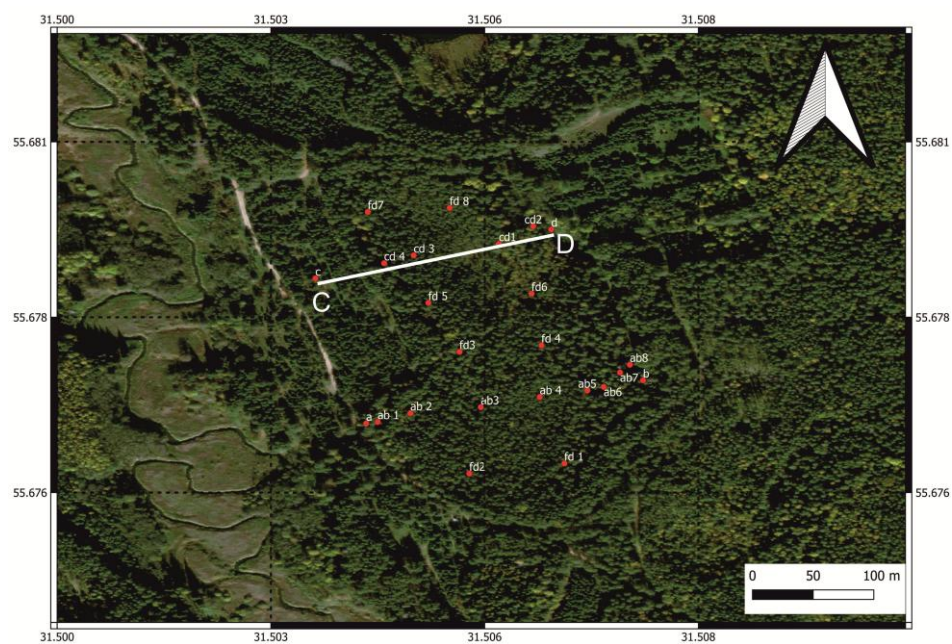


Fig. 93. C-D crosssection

Deposits distribution

During the 2017 and 2022 field seasons, the structure of the Late Quaternary sediments of the mire basin was studied by the description of the lithological composition of 36 boreholes. The sedimentary sequence is represented (from top to bottom) by: peat, gyttja, clay gyttja, and sand (basal peat interlayers are also found in the lower horizons). The boreholes were drilled along three longitudinal transects (fd7-fd2, fd8-fd1, T1-T7) and two transverse transects (a-b, c-d). As a result, it was found that the bog has two deep depressions: one, the deepest, in the southern part (borehole T3, thickness of Late Pleistocene-Holocene deposits over 13 m), and the second depression - in the north-eastern part (borehole fd6, thickness of Late Pleistocene-Holocene deposits over 10 m). The maximum peat thicknesses (4-5 m) are located along the eastern side of the basin (fd6, ab4, ab5, T9, T11), and in the central part of the southern basin (T4, T5). The maximum gyttja thicknesses are uncovered in the southern part of the basin (T3, 8 m), in the other boreholes its thickness does not exceed 5 m. The clay gyttja thickness does not exceed 0.5 m, except for borehole T3, where more than 1 m was retrieved.

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